

**THE ROLE OF ALCOHOL USE IN HIV TRANSMISSION AMONG  
GROOTFONTEIN RESIDENTS – NAMIBIA**

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Assignment presented in partial fulfillment of the requirements for the degree of  
Master of Philosophy (HIV/AIDS Management) at Stellenbosch University



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March 2009

## **DECLARATION**

By submitting this assignment electronically, I declare that the entirety of the work contained therein is my own, original work, that I am the owner of the copyright thereof (unless to the extent explicitly otherwise stated) and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

March 2009.

## Abstract

This research looks at the role of alcohol drinking in HIV transmission. A history of heavy alcohol drinking has been associated with a lifetime tendency toward high-risk sexual behaviors, including multiple sex partners, unprotected sexual intercourse, sex with high-risk partners, and the exchange of sex for money or drugs.

The objective of the study was to investigate the role played by alcohol consumption in the promotion of high-risk sexual behavior and therefore transmission of HIV infection among sexually active moderate alcohol drinkers and abusers aged 15 – 49 years in Grootfontein district, Namibia.

The study was a Knowledge, Attitude, Behaviour and Practice (KABP) survey. Data on individual knowledge about HIV/AIDS and alcohol drinking, personal attitudes towards HIV/AIDS and alcohol, beliefs about HIV/AIDS and sexual practices was collected on 217 study participants aged between 15-49 years through an interviewer-administered questionnaire and through the cluster sampling technique.

The research findings showed that history of having practiced unprotected sex, having sex with total strangers, having multiple sex partners, having sex with high-risk sexual partners, low self risk perception and history of sexually transmitted infections (STIs) was high among the alcohol abusers than moderate alcohol drinkers. For instance, the prevalence of multiple partnerships was 68(48.6%) among the moderate alcohol drinkers compared to 48(66.7%) among the abusers ( $p$ -value 0.012 at 95% confidence interval, Odds ratio: 2.118).

The conclusion made was that alcohol abuse is associated with multiple risky sexual behaviours in Grootfontein and hence there is need to integrate alcohol abuse in HIV prevention efforts.

## OPSOMMING

Hierdie navorsing kyk na die rol van alkohol gebruik in MIV transmissie. 'n Geskiedenis van alkohol misbruik is gekoppel aan 'n lewenslange neiging tot hoë-risiko seksuele gedrag, asook veelvoudige seks vennote, onveilige seks, seks met hoë-risiko persone, en die ruil van seks vir geld of dwelms.

Die doelwit van hierde studie was om die rol van alkohol gebruik in die bevordering van hoë-risiko seksuele gedrag en dus oordrag van MIV infeksie onder seksuele aktiewe alkohol gebruikers en misbruikers tussen 15-49 jaar in die Grootfontein distrik van Namibia te ondersoek.

Hierdie studie was 'n “Knowledge, Attitude, Behaviour and Practice (KABP)” opname. Data oor individuele kennis oor MIV/VIGS en drank gebruik, persoonlike houdings oor MIV/VIGS en alkohol, en houdings oor MIV/VIGS en seksuele praktyke is ingesamel van 217 deelnemers tussen 15-49 jaar deur 'n ondervraer-gedadministreerde vraelys en deur die tros steekproef tegniek.

Die navorsings bevindinge het gewys dat 'n geskiedenis van onveilige seks, seks met totale vreemdelinge, seks met veelvoudige seksuele venote, seks met hoë-risiko persone, lae selfpersepsie, en 'n geskiedenis van seksuele oordraagbare infeksies was hoër onder misbruikers van alkohol en alkoholiste as matige drinkers. Byvoorbeeld, die voorkoms van veelvoudige venote was 68 (48.6%) onder die matige alkohol gebruikers in kontras met 48 (66.7%) onder die misbruikers ( $p$ -waarde 0.012 op 95% vertrouwe interval, Kans verhouding: 2.118).

Die gevolgtrekking is dat alkohol misbruik in Grootfontein met veelvoudige riskante seksuele gedrag verwant is, en daar is dus 'n behoefde om die kwessie van alkohol misbruik in MIV voorkomings inisiatiewe te integreer.

## **ACKNOWLEDGEMENTS**

Gary Eva – Supervisor, Stellenbosch University, Cape Town.

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## Chapter 1 - Introduction

The relationship between alcohol and HIV/AIDS needs to be investigated because alcohol may influence high-risk sexual behaviour (National Institute on Alcohol Abuse and Alcoholism (NIAAA), 1992). Alcohol use may be an indicator for a risk-taking temperament (implying that those who drink alcohol may at the same time engage in a variety of high-risk activities such as unsafe sexual practices as part of a “problem behavior syndrome”. In addition, alcohol may influence high-risk behaviours at particular encounters by impairing normal judgment and disinhibiting socially learnt restraints (NIAAA, 1992). A history of heavy alcohol drinking has been associated with a lifetime tendency toward high-risk sexual behaviors, including multiple sex partners, unprotected sexual intercourse, sex with high-risk partners, and the exchange of sex for money or drugs.

Alcohol abuse is a well-known and serious social problem in Namibia, particularly among the African population in towns as well as in the countryside. According to the Social Impact Assessment and Policy Analysis Corporation (PTY) (SIAPAC) (2002), 55.6% of all adults in Namibia are actively consuming alcohol. With this high level of alcohol consumption and the high prevalence of HIV/AIDS in Namibia, it would be worthwhile investigating the existence of any association between alcohol consumption and high-risk sexual behaviour that predisposes an individual to contracting HIV infection in some of the Namibian towns such as Grootfontein. Grootfontein is the largest district in Otjozondjupa region in Namibia. The town is situated in the north eastern part of the country. Just like many other districts in Namibia, Grootfontein is faced with a challenging HIV/AIDS situation. In 1994, the HIV prevalence among the pregnant women in Grootfontein was 9% but this figure rose to its peak of 30% in 2002. However, the HIV prevalence decreased to 28% in 2004 and 19.3% in 2006 (Shangula, 2007). The majority of the affected people are the economically active individuals aged between 15 and 49 years (MOHSS, 2001). Heterosexual transmission remains the predominant mode of HIV transmission among sexually active adults just like in many other countries in Sub-Saharan Africa (Mburaitete et al., 2000).

The research question for this study was, “What role does alcohol play in the promotion of high-risk sexual behavior and therefore risk of HIV transmission among the sexually active individuals aged 15 to 49 years in Grootfontein, Namibia?” The formulated scientific hypotheses included the following: Alcohol abuse increased the likelihood of risky sex, thereby increasing an individual's risk for acquiring HIV infection and self-perception of HIV transmission risk is low under the influence of alcohol. On the other hand, the null hypotheses were: Alcohol abuse does not increase the likelihood of risky sex and does not influence an individual's risk for HIV infection and that self-perception of HIV transmission risks is not affected by alcohol drinking.

The study had the following specific objectives:

- (a) Establish whether there is a correlation between moderate alcohol drinking and alcohol abuse with high-risk sexual behavior;
- (b) Determine the level of self perception of HIV transmission risk when one is under the influence of alcohol and
- (c) Find out the prevalence of risky sexual behaviour between alcohol abusers and moderate drinkers in Grootfontein.

The operational definitions for alcohol drinking were adopted from the NIAAA (1992) given as:

- (i) The safe amount of alcohol for men (Moderate alcohol drinking). For most adults, moderate alcohol drinking — up to two drinks per day for men seems to be safe (One drink equals one 12-ounce bottle of beer or wine cooler, one 5-ounce glass of wine, or 1.5 ounces of 80-proof distilled spirits.).
- (ii) Alcohol abuse: defined as a pattern of drinking resulting in one or more of the following situations within a 12 month period:
  - (a) Failure to fulfill major work, school or home responsibilities;
  - (b) Drinking in situations that are physically dangerous (e.g. while driving a car or operating a machine);
  - (c) Having recurring alcohol-related legal problems such as being arrested for driving under the influence of alcohol or for physically hurting someone while drunk and
  - (d) Continued drinking despite having on-going relationship problems caused or worsened by drinking.

(iii) Risky Sexual Behavior: was defined as sexual behaviour predisposing someone to sexual transmission of HIV and other sexually transmitted infections (STIs) such as gonorrhoea, syphilis, chancroid, etc. This includes:

(a) Having multiple sex partners,

(b) Engaging in unprotected sex'

(c) Having sex with high-risk sexual partners such as prostitutes and commercial sex workers.

## **Chapter 2 - Literature review**

The target for the literature review was to identify any studies done in the past that looked at the association between alcohol and high-risk sexual behavior. The search strategy was to include any articles and reports written on the subject ranging from the time AIDS was discovered to date which could be accessed via the internet. The search task was challenging due to lack of access to library facilities where other literature could be reviewed. The only feasible search option was the online databases. Alcohol and HIV/AIDS were used as outcome search terms. The search included both studies done in developed and developing countries.

The role played by alcohol consumption as a facilitator of HIV/AIDS infection risk has been the subject of much research. A number of studies have demonstrated the existence of an association between alcohol drinking and risky sexual behavior that predisposes an individual to contracting HIV infection. In their cross-sectional based study entitled “A Population Based Study on Alcohol and High-Risk Sexual Behaviours in Botswana”, Weiser, S. D. et al. (2006) found that heavy alcohol drinking was associated with higher odds of all risky sex outcomes examined (including unprotected sex, multiple sexual partners and paying for sex) among both men and women. As opposed to heavy and problem drinkers, moderate drinkers were found to have had a lower risk sexual behaviour. The study demonstrated that alcohol drinking was associated with multiple risks for HIV transmission among sexually active adults and underscored the need to integrate alcohol abuse and HIV prevention efforts not only in Botswana but everywhere else (Weiser et al, 2006).

Having sex under the influence of alcohol has also been known to be associated with both an increased HIV prevalence and a greater possibility of indulging in paid sex (Mnyika et al., 1997, Fritz et al., 2002 & Simbayi et al., 2004) (as cited by Weiser et al., 2006). Since alcohol is associated with risky sexual behaviours, it might be one of the most common and potentially modifiable HIV risk factors present (Weiser et al., 2006). In another cross-sectional study done in Zimbabwe among men recruited from

beer halls, the HIV prevalence was noted to increase with increasing levels of the amount of alcohol one drunk (Fritz et al., 2002) (as cited by Weiser et al., 2006).

According to Simbayi et al., (2004) (as cited by Weiser et al., 2006), alcohol consumption also leads to a higher likelihood of condom failure and using the lubricants with condoms wrongly. A study done by Mbulaiteye S. M et al (2000) from the Medical Research Council Programme on AIDS, Uganda Virus Research Institute aiming at investigating the association between alcohol consumption and HIV-seropositivity in a rural Ugandan population also demonstrated that an association between a history of alcohol consumption and being HIV positive did exist. This study revealed that HIV prevalence was higher among adults who consumed alcohol than those who never drank. Of the total adult population residing in a cluster of 15 neighboring villages, 3,279 (60%) were interviewed; 48% were males; 905 (27%) had not started sexual activity and were excluded from further analysis. Of the remaining 2,374, 8% were HIV infected, 57% had ever drunk alcohol, and 4% lived in households where alcohol was sold. Living in a household where alcohol was sold was associated with a history of having ever drunk alcohol.

HIV prevalence among adults living in households selling alcohol was 15% compared with 8% among those living in households not selling alcohol. Individuals who had ever drunk alcohol experienced HIV prevalence twice that of those who had never drunk, 10% versus 5%. Their conclusion was that they had demonstrated an association between a history of alcohol consumption and being HIV sero-positive and that public health campaigns needed to stress the relationship between HIV and alcohol. According to Mbulaiteye et al. (2000), individuals who drink alcohol are less likely to use safer sex practices such as using condoms. As a central nervous system depressant, alcohol has been noted to impair judgment in moderate quantities. It seems to increase the HIV transmission risk by reducing personal control, increasing risk taking, decreases risk perception from unprotected sex or it may increase sexual activity (Mbulaiteye et al., 2000).

Morrison, T. C. et al. (1998) also did a study entitled “Frequency of alcohol use and its association with STD/HIV related risk practices, attitudes and knowledge among an African American community recruited sample”. This study revealed results that seemed to agree with those obtained from the Ugandan study by Mburaiteye et al.

(2000). Morrison et al. (1998) found that alcohol use frequency (no alcohol, 1-15 days, 16-30 days in past month) was significantly associated with sexually transmitted diseases (STD) history, non use of condoms, lower condom use self efficacy, multiple sex partners in the past 30 days and lower HIV - related knowledge. Frequent alcohol use in the absence of using other drugs was associated with higher levels of HIV risk behaviours. From this study, Morrison et al. (1998) were of the view that HIV prevention programmes needed to target frequent alcohol drinkers in order to reduce HIV-associated risk behaviours and enhance HIV risk reduction knowledge and attitudes associated with the adoption of HIV prevention practices.

A clear association between alcohol consumption and engaging in risky sexual behaviour has also been demonstrated by several other studies (Kaljee, L. M. et al. (2005), Zablotska I. B. et al., 2006). These studies also have found that an absence of or a reduction in alcohol use is associated with a decrease in high-risk sexual behavior. A study of heterosexual drinking habits and sexual behavior found that women and men who frequently combined alcohol use with sexual encounters were generally less likely to use condoms during intercourse (Bagnall et al., 1990), (as cited by NIAAA, 1992). According to the NIAAA (1992), several other studies that have also examined the consequences of drinking alcohol at specific sexual encounters have demonstrated the existence of an association between alcohol use and high-risk sexual behaviour.

Robertson & Plant (1988), (as cited by NIAAA, 1992) did a study entitled “Alcohol, sex and risks of HIV infection” in which they found that Scottish adolescents who were drunk at their first sexual encounters were less likely to have used a condom than those who did not drink. This too is consistent with findings from the other studies such as that by Hingson, R. W. et al., (1990) who found that teens in Massachusetts were less likely to use condoms during sexual intercourse following alcohol or other drug use. According to Hingson et al. (1990), such findings highlight the fact that alcohol can directly influence sexual risk taking.

McEwan, R. T. et al. (1992) are also in agreement with the idea that alcohol consumption is associated with the risk of HIV transmission. In their study done among students in the north east of England, McEwan et al. (1992) found that heavy

drinkers were more likely to engage in unsafe sex (such as casual sex without a condom and sex with an individual known to have multiple sexual partners). The respondents did associate alcohol with sexual risk taking. McEwan et al. (1992) concluded that alcohol could inhibit safer sex; young risk takers might also drink more and drinking alcohol could be associated by coincidence since many sexual encounters began in licensed premises. McEwan et al. (1992) were of the view that alcohol drinking habits needed to be made a priority issue in HIV/AIDS related research, policy debate and health education endeavours.

Quackenbush, Benson and Rinaldi (1992) argue that there seems to be an increased HIV-related risk behaviour when people are drunk because they get disinhibited and are less likely to follow some of the rules that they would normally follow. Quackenbush et al. (1992) further argue that alcohol disinhibiting effects may be present even after a person has taken only one or two alcoholic drinks. A person who has declared and sworn to use condoms and other latex barriers during sexual acts may “forget” or find it hard to use them after consuming a number of alcoholic drinks (Quackenbush et al., 1992). It has also been observed that when under a “blackout” one can have unprotected sex and not remember the event later (Quackenbush et al., 1992).

Baldwin J. A et al. (2000) also did a study in America entitled, “Alcohol as a risk factor for HIV transmission among American Indian and Alaskan native drug users” and they found that those who claimed more episodes of using alcohol before or during sex reported significantly more events of unprotected sexual intercourse. Many individuals also reported episodes of blacking out while drinking and learned later that they had had unprotected sex with complete strangers or individuals they would not otherwise accept as partners. It must be noted that the association between alcohol and high risk sexual behavior does not imply that alcohol always causes high risk sex and at all occasions (National Institute on Alcohol Abuse and Alcoholism (NIAAA), 1992).

## **Chapter 3 – The research methodology**

### **3.1. Study design and limitations**

The research design used to test the hypotheses in this study was a cross-sectional KABP survey which is a non-experimental and quantitative research technique. This KABP survey was done through an interviewer-administered questionnaire. The questionnaire was piloted on 20 alcohol drinkers before it could be administered. The results of the pilot were not included in the final analysis. The study participants were alcohol drinkers aged between 15-49 years, the age group most affected with HIV/AIDS. Questions on related topics were grouped together in several sections. Closed ended questions were used on each of the study participants. The study limitations include the following:

1. Financial limitations: A larger sample than the study sample could not be surveyed as the study was self funded.
2. Response bias: Some of the sensitive questions such as those on issues of sexuality (which are sometimes considered taboos to be disclosed openly) and the amount and frequency of alcohol consumption may not have been answered truthfully. To limit the impact of response bias, respondents were assured of their anonymity and confidentiality and were encouraged to answer the questions truthfully.
3. The study sample may not have captured all the alcohol abusers and moderate drinkers that could probably have given different response than the ones obtained because individuals drank alcohol at different times and I only went to the shebeens and bars at certain times during late afternoons and part of the evenings. So, this may have a bearing on the participants sampled and described as alcohol abusers or moderate alcohol drinkers.
4. Limited literature and resources: access to library facilities and other resources was very limited and as such the literature review could not be broadened.

### 3.2 Ethical considerations

Each participant was fully informed about the survey and that participation in the study was completely voluntary. The importance of the study together with how that their answers would be needed was fully explained to all the participants. Since the study included sensitive questions on intimate relationships and some personal habits, participants were assured that every piece of information they volunteered to give would be treated with strict confidentiality and as such were encouraged to respond to all the questions they could answer. Participants were also informed that it would not be possible to publicly identify any individual who would participate in the study or even associate them with their responses after the study. The interviewer-administration of the questionnaire only proceeded after obtaining consent from each respondent.

### 3.3. Sampling procedure:

The sampling technique used in order to obtain a representative sample was the cluster sampling technique. A sampling frame that included all the beer drinking places (i.e. registered with the Grootfontein municipality or not) was drawn. The clusters were according to the residential areas in the town. Simple random sampling was then used to select a few clusters from where data was to be collected. A random sample of 217 individuals from the selected clusters was included in the study. The degree of certainty (confidence) chosen for this study was 95% (with a cutoff value of the appropriate probability distribution of 1.96) and the margin of error at 5%. The actual calculated sample size for this study was 209 which was determined by using a formula adopted from “The Johns Hopkins and IFRC Public Health Guide for Emergencies” by Abdallah & Burnham (undated) given below as:

$$N = \frac{Z^2 pq}{d^2}$$

Where N= size of sample,

Z = level of statistical certainty chosen or confidence interval (at 95% Z=1.96 and 1.68 at 90%). The value of Z is usually rounded to 2.

d = the degree of accuracy desired which is equal to half the confidence interval.

P = estimated level / prevalence / coverage rate being investigated and

q = 1-p.

According to the 2006 Namibia HIV sentinel survey, the HIV prevalence among

antenatal care attendees in Grootfontein was 19.3%. Using this figure and the formula above, the sample size N was calculated as:

$$N = \frac{(1.96)^2(0.193)0.704}{(0.05)^2}$$

$$N = 209.$$

However, this sample size was exceeded by eight respondents to bring the total number of study participants to 217.

### **3.4. Data collection**

I collected the data over a period of one month after having been granted authorization by the research committee of the Namibia's ministry of health to proceed with the planned study. Data was collected on the social demographic characteristics of the participants; individual knowledge about HIV/AIDS; alcohol drinking patterns; personal attitudes towards HIV/AIDS and alcohol, beliefs about HIV/AIDS and sexual practices. This was done via the use of an interviewer-administered questionnaire on the alcohol drinking individuals aged 15-49 years in Grootfontein district which took about 10 to 15 minutes per participant. The interviewer-administered questionnaire was done on a one-to-one basis by meeting the individual respondents face-to-face in the sampled bars and shebeens. The questions for measuring HIV knowledge, adopted from the UNAIDS General Population Survey. The individual respondents were scored as having correct HIV knowledge if they were able to recognize the most common modes of HIV prevention in Namibia which included consistent condom use, faithfulness to one sexual partner and abstinence. To measure alcohol drinking, respondents were asked to indicate the number of days in a week that they drank alcohol and the number of alcoholic drinks they drank per day on the days that they did drink. This information was used to categorize the participants into two groups: moderate alcohol drinkers and alcohol abusers.

Alcohol drinking was defined as follows:

- (a) Moderate drinking (1–7 drinks/week for women and 1–14 for men)
- (b) Problem drinking (8–14 drinks/week for women, 15–21 for men) and

These definitions were adapted from the National Institute on Alcohol Abuse and Alcoholism (NIAAA) (January 1992).

The study involved 217 participants who were current alcohol drinkers aged 15-49 years having different general demographic characteristics. Simple random sampling of the participants from the sampled clusters was done. Consent to participate in the study was obtained from the participants. The questions asked were mainly closed ended using the interviewer administered questionnaire.

### **3.5. Statistical analysis**

The collected data was entered in Epi Info (TM) which is a series of programs for use by public health professionals in conducting outbreak investigations, managing databases for public health surveillance and other tasks, and general database and statistics applications. From Epi Info, the data was exported to a quantitative statistical application called Statistical Package for Social Sciences (SPSS) for analysis. Descriptive statistics were computed for the various variables created. Multiple linear regression was used to predict risk sexual behaviour (the dependent variable) from other independent variables like level of education, sex and age. *P*-values were used to find an association between alcohol drinking and risky sexual behaviour.

## Chapter 4. Research findings

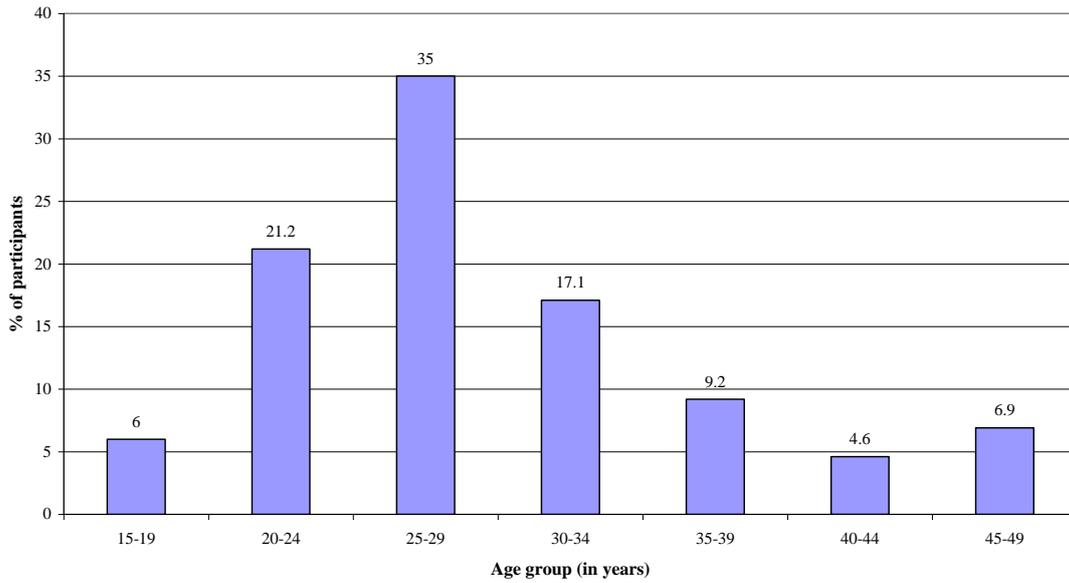
### 4.1. Sample size distribution

A total of 217 subjects participated in this study. There were 156(71.9%) male participants and 61(28.1%) females (See table and figure 1 below). There were 13(6.0%) participants aged 15 -19 years, 46(21.2%) aged 20 - 24 years, 76(35.0%) aged 25-29 years, 37(17.1%) aged 30-34 years, 20(9.2%) aged 35-39 years, 10(4.6%) aged 40-44 years and 15(6.9%) aged 45-49 years. The minimum age was 18 years and the maximum was 49 years with a mean of 29.1 and a median of 28.0 years.

**Table 1: Sample size distribution by sex and age group**

Age group	Sex		Total
	Male	Female	
15-19	4	1	5
	4.0%	3.0%	3.7%
20-24	22	9	31
	21.8%	27.3%	23.1%
25-29	37	15	52
	36.6%	45.5%	38.8%
30-34	19	5	24
	18.8%	15.2%	17.9%
35-39	9	1	10
	8.9%	3.0%	7.5%
40-44	4	1	5
	4.0%	3.0%	3.7%
45-49	6	1	7
	5.9%	3.0%	5.2%
<b>Total</b>	<b>101</b>	<b>33</b>	<b>134</b>

Figure 1: Histogram for age group distribution



#### 4.2. Education levels

The education characteristics for the study participants are as shown in Table 2 below:

Table 2: Education levels for the participants:

Education level	Frequency	Percent (%)	Cumulative percent (%)
No education	4	1.8	1.8
Primary education	22	10.1	12.0
Secondary education	161	74.2	86.2
Post secondary	30	13.8	
<b>Total</b>	<b>217</b>	<b>100.0</b>	<b>100.0</b>

The four participants without education were all males. 16(10.3%) males and 6(9.8%) females had some form of primary education while 111(71.2%) and 50(82.0%) males and females respectively had secondary education. In addition, 25(16.0%) males and 5(8.2%) females reached post secondary level of education.

#### 4.3: Prevalence of alcohol abuse and moderate drinking

The prevalence of alcohol abuse and moderate drinking in the study population was 33.6% (73) and 66.4% (144) respectively. Alcohol abuse and moderate drinking were more prevalent in the 25-29 years age group than all the other age groups for the participants. Out of the 73(33.6%) alcohol abusers, 2.7% had no education and another 2.7% only had primary education. On the other hand, 68.5% had secondary education and 26.0% had post secondary education. Out of the 144 (66.4%), moderate

alcohol drinkers, 111(77.1%) had some form of secondary education, 20(13.9%) did some primary education, 2(1.4%) had no education and 11(7.6%) had some post secondary education. Male participants accounted for 99 (63.5%) and females 45 (73.8%) of the moderate alcohol drinkers. On the other hand, alcohol abuse among the male participants was 36.5% (57) compared to 26.2% (16) among the female counterparts (see table 3 below). In this study population, education level and alcohol consumption did not demonstrate a significant correlation. The shared variance for education level and the alcohol level category (i.e. alcohol abuse or moderate drinking) was 5.2% (r-value 0.227) although the *p*-value was 0.001 at 0.01 significant level.

**Table 3: Frequency of alcohol drinking pattern by sex**

Alcohol drinking pattern	Sex		Total
	Male	Female	
Moderate alcohol drinking	99(63.5%)	45(73.8%)	144(66.4%)
Alcohol abuse	57(36.5%)	16(26.2%)	73(33.6%)
<b>Total</b>	<b>156</b>	<b>61</b>	<b>217</b>

#### **4.4 Sexual history and behaviour**

##### **4.4.1 Age of first sexual intercourse**

All the study participants admitted to having had sexual intercourse before, which for the purpose of this survey was defined as vaginal, anal or mouth sex. The minimum age of sexual debut was 10 years with a median age of 17 years and a maximum of 28 years. Of the participants, 41(19.7%) had their first sexual contact at between 10-14 years; 131(63.0%) in the 15-19 years age group; 28(13.5%) between 20-24 years and 8(3.8%) between 25-29. The lowest age of sexual debut of 10 years was noted in the males compared to 11 years for the females.

##### **4.4.2. Number of sexual partners**

The prevalence of multiple partnerships among the study participants was 54.7% (116) compared to 45.3% (96) for single partnerships as shown in table 4 below.

**Table 4 Frequency table for number of sexual partners compared to alcohol drinking pattern**

			Alcohol drinking category		Total
			Moderate alcohol drinker	Alcohol abuser	
Number of sexual partners	one partner	Count	72	24	96
		% within alcohol drinking category	51.4%	33.3%	45.3%
	Multiple partners	Count	68	48	116
		% within alcohol drinking category	48.6%	66.7%	54.7%
<b>Total</b>		Count	<b>140</b>	<b>72</b>	<b>212</b>

The prevalence of multiple partnerships was 68(48.6%) among the moderate alcohol drinkers compared to 48(66.7%) among the abusers (*p*-value 0.012 at 95% confidence interval, Odds ratio: 2.118). Out of all those that indicated they had multiple partners, 96(82.8%) were males compared to 20(17.2%) females. Single partnerships were also less among the alcohol abusers at 24(33.3%) compared to moderate drinkers at 72(51.4%). There were 66.1% females who said they had single partnerships compared to only 37.3% of males. These findings were statistically significant with a *p*-value of 0.000.

#### **4.4.3. Days in a week that participant drank alcohol**

The study participants gave various responses when they were asked to indicate how many days they drank alcohol per week. 32(15.0%) said they drank alcohol on a daily basis. Out of this percentage, 11(34.4%) were females and 21(65.6%) were males. 44(20.6%) said they drank only once per week and this category had 12(27.3%) females and 32(72.7%) males. Furthermore, 78(36.4%) said they drank two times a week only of which 16(20.5%) were females and 62(79.5%) were males. The last category had 60(28.0%) who indicated that they drank three to four times a week. These included 19(31.7%) females and 41(68.3%) males.

#### **4.4.4. Drinking alcohol before sex**

The prevalence of sex after drinking alcohol in the study sample was 62% (134). Alcohol abusers had a higher prevalence of 79.5% (58) of having sexual intercourse

after drinking alcohol compared to 53.1% (76) among the moderate alcohol drinkers (See table 5 below). There were 101(75.4%) male participants who had sexual intercourse after drinking alcohol compared to 33(24.6%) females who did the same. In addition, the prevalence of unprotected sex following alcohol consumption was found to be 42.6% among alcohol abusers compared to 38.5% among moderate alcohol drinkers. More male participants (77.4%) said they did not use condoms during sexual intercourse after alcohol drinking compared to 22.6% females. There were 16(64.0%) males who indicated that they had drank alcohol specifically to enjoy sexual intercourse compared to 9(36.0%) females who said the same.

**Table 5: Prevalence of sexual intercourse following drinking alcohol**

			Alcohol drinking category		Total
			Moderate alcohol drinker	Alcohol abuser	
Drank alcohol before having sex	Yes	Count	76	58	
		% within alcohol drinking category	53.1%	79.5%	62.0%
	No	Count	67	15	82
		% within alcohol drinking category	46.9%	20.5%	38.0%
<b>Total</b>			<b>143</b>	<b>73</b>	<b>216</b>

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	14.200(b)	1	.000		
Linear-by-Linear Association	14.134	1	.000		

**4.4.5. Prevalence of sex with strangers**

Among the alcohol abusers, 42(57.5%) admitted to having had sex with strangers compared to 44(32.4%) among the moderate alcohol drinkers. Of the moderate alcohol drinkers, 92(67.6%) said they never had sex with strangers. On the other hand, only 31(42.5%) alcohol abusers denied having had sex with strangers. In general,

86(41.1%) of the study participants had sex with a stranger before. 73(84.9%) males reported having had sex with a complete stranger as opposed to 13(15.1%) females ( $p$ -value: 0.000). 26(83.9%) of the males did not use condoms during sexual intercourse with strangers while 5(16.1%) females did the same ( $p$ -value: 0.002).

#### **4.4.6. Condom use in general**

In general, 139(65%) study participants said they had used condoms during their last sexual intercourse while 75(35%) did not use condoms. 102(73.4%) males and 37(26.6%) females said they used condoms during the last sexual intercourse. On the other hand, 52(69.3%) males and 23(30.7%) females indicated that they did not use condoms. The main reason cited for not using condoms by the 35% who did not use condoms was that they had trusted their partners and so did not see a reason for using condoms. On the contrary, most of those that used condoms stated that they did so in order to prevent sexually transmitted diseases and HIV.

#### **4.4.7. Sex with commercial sex workers (CSW)**

Of all the study population, 14(24.6%) alcohol abusers admitted to having had sex with a commercial sex worker as opposed to 12(11.1%) moderate alcohol drinkers ( $p$ -value 0.024). The denial of history of having had sex with a CSW was higher (88.9%) among the moderate alcohol drinkers than the alcohol abusers (75.4%). In general, the prevalence of sex with a CSW was 15.8%(26) in the study sample. Furthermore, 31.6% alcohol abusers admitted having paid for sexual intercourse before as opposed to 20.2% of the moderate drinkers who also had paid for sex before.

#### **4.5. Sexually transmitted infections (STIs)**

The awareness about STIs was 97.2%(210) among the study participants. Only 6(2.8%) indicated that they had never heard of STIs before. The history of having had an STI in the past 12 months prior to the survey was reported by 10(16.7%) alcohol abusers compared to 11(7.6%) among the moderate alcohol drinkers.

#### **4.6. Knowledge, opinions and attitudes**

All the 217 (100%) participants had heard about HIV/AIDS with 99% indicating that it was possible for people to protect themselves from HIV/AIDS. Of all the participants, 211 (97.2%) mentioned the correct and consistent use of condoms as being one way of preventing HIV/AIDS. However, only 60 (27.6%) and 54 (24.9%)

mentioned having one faithful, non-infected partner and abstinence respectively as other ways of people protecting themselves from HIV/AIDS. Belief that mosquitoes could transmit HIV/AIDS was found in 24 (11.1%) study participants. This was said by 50% of those with no education; 13.6% of those who only had primary education, 10.6% of those with secondary education and 6.7% of those who had post secondary education. Furthermore, 63 (29.0%) of the participants believed that casual contact like kissing could transmit HIV/AIDS with 204 (94%) indicating that sharing needles with an HIV infected person could transmit HIV infection. There were 199 (88.5%) study participants who believed that a health looking person could have HIV/AIDS while 6 (2.8%) felt that it was not possible for a health looking person to have HIV/AIDS. In addition, 168 (77.4%) of the participants knew that a pregnant woman could transmit HIV to her unborn baby. Transmission of HIV from mother to child antenatally (intrauterine) was known by 60 (27.6%) of the participants while 92 (42.2%) were aware about transmission during labour and 136(62.7%) mentioned transmission during breastfeeding. Out of the 217 study participants, only 126(58.1%) had done an HIV test before out of which 68.2% had it voluntarily while it was a requirement for 31.8% (e.g. pre-employment in the military).

However, 200 (92.2%) participants believed that there was need for people to know their HIV status despite having only 58.1% who had done an HIV test before. There were 7 (3.2%) who did not think it was necessary to know one's HIV status. The study revealed that 30 (13.9%) believed AIDS had a cure while 167 (77.3%) knew that there was no cure for it. The study also revealed that 206 (94.9%) of the participants said they were actively doing something to prevent themselves from getting HIV/AIDS although only 47 (21.7%) felt that they could be protected if they always used condoms during sex while 45.2% and 23% felt that they could still be protected if they used condoms only sometimes and if they had one faithful partner respectively.

#### **4.7. HIV risk perception**

The moderate alcohol drinkers and the alcohol abusers had different HIV risk perceptions besides the differences highlighted in the preceding sections. Among the alcohol abusers, 57.8% believed they had no risk of HIV while only 31.2% felt they had the risk. On the other hand, 20(60.6%) among the moderate drinkers felt that they

had a great risk of contracting HIV while only 13(39.4%) alcohol abusers felt the same way.

## Chapter 5 - Discussion of findings

Most of the participants in this study were aged between 25 and 29 years with the greater majority (74.2%) of them having had some form of secondary education (i.e. grades 8 to 12). Sexual activities started as early as 10 years for the males and 11 years for the female study participants. The study demonstrated that drinking alcohol before sex was a common practice in the study sample with alcohol abusers having a higher prevalence (79.5%) of sexual intercourse after drinking alcohol compared to 53.1% among the moderate alcohol drinkers. From the study, the prevalence of unprotected sex following alcohol consumption was found to be higher (42.6%) among alcohol abusers than among moderate alcohol drinkers (38.5%). This finding is in agreement with the findings of Bagnall et al., (1990), (as cited by NIAAA, 1992) who demonstrated that women and men who frequently combined alcohol use with sexual encounters were generally less likely to use condoms during intercourse. It was also noted that there was an increased sexual activity among alcohol abusers than moderate users. This finding is similar to what Mbulaiteye et al. (2000) who had an impression of a possible increase in sexual activity following drinking of alcohol.

Furthermore, it was demonstrated that there were more (67.6%) of those in the moderate alcohol drinking category who denied having sex with commercial sex (CSWs) workers than among the alcohol abusers (42.5%). The alcohol abusers had a higher likelihood of having sex with CSWs ( $p$ -value 0.03). In addition, 42(57.5%) of the alcohol abusers admitted to having had sex with strangers compared to 44(32.4%) among the moderate alcohol drinkers. In general, 86(41.1%) of the study participants had sex with a stranger before. Alcohol abusers demonstrated a high likelihood of engaging in risky sexual behaviour (e.g. prevalence of multiple partnerships of 66.7% with a  $p$ -value of 0.012 at 95% confidence interval and Odds ratio: 2.118 is quite significant). These findings are consistent with findings from other studies. For instance, Weiser, S. D. et al. (2006)'s study cited in the literature review also found that heavy alcohol drinking was associated with higher odds of all risky sex outcomes that they looked at including unprotected sex, multiple sexual partners and paying for sex among both men and women. The males were leading their female counterparts in engaging in risky sexual behaviour. McEwan, R. T. et al. (1992)'s findings which

agreed with the idea that alcohol consumption is associated with the risk of HIV transmission after they found that heavy drinkers were more likely to engage in unsafe sex (such as casual sex without a condom and sex with an individual known to have multiple sexual partners) is also consistent with the findings in this study. In this study, the age group from 25 to 34 years is the one where condoms were less used after drinking alcohol. This study also demonstrated that HIV risk perception was lower among the alcohol abusers than the moderate alcohol drinkers as 39(58.2%) of the abusers felt that they had no risk of HIV despite engaging in risky sexual behaviour.

With the high HIV prevalence rate in Grootfontein and having only 60(27.6%) and 54(24.9%) mentioning having one faithful, non-infected partner and abstinence respectively as other ways of people protecting themselves from HIV/AIDS raises concerns of the HIV preventive messages received by these study participants in Grootfontein. In addition, less than 60% of the study participants knew their HIV status despite the fact that 200(92.2%) believed that it was important for each individual to know their HIV status. Misconceptions about the various ways in which HIV/AIDS is transmitted seemed to exist as noted by those that still believed that mosquitoes and casual contact could transmit HIV/AIDS. It must be noted also that even though the HIV/AIDS has been in existence for slightly over two decades now without a cure, there are still those from this study (13.9%) that believe AIDS could be cured. Coupled to this is the belief on the efficacy of the condoms and sticking to one, non infected faithful sex partner. The study revealed that 21.7% of the participants doubted the efficacy of using condoms consistently and correctly during sexual intercourse and hence believed that they could not be protected. Only slightly over 20% believed that there was protection from HIV/AIDS in having one faithful partner. This belief could contribute to the high prevalence (54.7%) of multiple partnerships observed in the study sample as highlighted in section 4.4.2 above.

These findings seem to raise some doubts as to what kind of HIV/AIDS prevention strategies the study participants were exposed to. It calls for more efforts to be put in place to strengthen HIV/AIDS prevention strategies. Since the risk sexual behaviours are more prevalent among the men, there is a possibility that these men have not been regularly finding themselves in places where HIV/AIDS prevention strategies are being

implemented. There may be need to review these strategies; consider community mobilization and sensitization activities that would reach out to alcohol abusers too and strengthen voluntary counseling and testing (VCT) services to increase the VCT coverage especially among the alcohol abusers who are showing a higher risk of sexual behavior following consumption of alcohol than the moderate alcohol drinkers. At the community level, drama groups can be engaged in to do sensitizations in the community on the associations existing between alcohol and HIV. Laws and regulations that govern the operations of bars and taverns may also need to be changed to allow so that these facilities are allowed to operate only at certain times e.g. all bars to close by 10:00 PM. Another strategy would be have non-governmental organizations working in the area of HIV prevention partnering and finding some common grounds on how those that spend some of their time in the bars and shebeens can be reached with the various messages on HIV/AIDS.

## **Chapter 6 - Conclusion**

This study highlights the association of risk sexual behaviour with alcohol abuse much more than moderate alcohol drinking. The role alcohol plays in influencing sexual behaviour needs to be considered critically in primary prevention of HIV transmission in Grootfontein so that the alcohol abusers and moderate drinkers are well catered for in terms of HIV/AIDS prevention strategies and campaigns. At some point, public health campaigns may need to be tailored to target alcohol abusers in various alcohol drinking places. Enough resources will need to be devoted to dealing with the problem of alcohol abuse. This will eventually contribute to the reduction in HIV sexual risk behaviours among the high-risk sexually active populations. With these results the null hypotheses were rejected with alcohol abusers showing a higher likelihood of engaging in risk-sexual behaviours than moderate alcohol drinkers.

The study does suggest that alcohol abuse is associated with multiple risky sexual behaviours in Grootfontein. Alcohol abuse was noted to be associated with multiple risks for HIV transmission among sexually active adults and underscored the need to integrate alcohol abuse and HIV prevention efforts. Alcohol does play a significant role in promoting high-risk sexual behavior. With high-risk sexual behavior promoted, an individual who abused alcohol stood a higher risk of contracting HIV infection than a moderate drinker. Being drunk often provides the necessary excuse for inappropriate, unsociable or risky sexual behavior. It is therefore critical that the problem of alcohol abuse be stressed as part of the primary prevention of HIV transmission in Grootfontein district and Namibia as a whole.

In comparing males to their female counterparts, it was noted that there were more males engaging in risk sexual behaviour than the females. Males seem to be drinking much more than the females. In addition, more males were combining drinking alcohol with increased sexual activity and without using condoms which is also in agreement with the literature cited above. Males drank more regularly than the females. With the findings demonstrated in this study, alcohol drinking habits need to be considered in primary prevention of HIV/AIDS.

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## Appendix

INTERVIEWER - ADMINISTERED QUESTIONNAIRE FOR SEXUALLY ACTIVE ADULTS AGED 15 – 49 YEARS IN GROOTFONTEIN, NAMIBIA

“THE ROLE OF ALCOHOL IN HIV TRANSMISSION IN GROOTFONTEIN DISTRICT, NAMIBIA”

001 Questionnaire identification number.....

002 Cluster name.....

Introduction: Hello, my name is Andrew Kumwenda. I am a medical doctor working for the ministry of health and social services here at Grootfontein State Hospital. I am interviewing many people like you in this town in order to find out some information about the people’s knowledge, attitudes, sexual behaviour and practices related to HIV/AIDS and sexually transmitted diseases (STDs). This is a research project designed to see what connection exists between alcohol and the transmission of HIV in our town of Grootfontein. The results of this study will help in better understanding what people in our town think, say and do in terms of certain behaviours.

Confidentiality and consent: If you agree to participate in this survey, I am going to ask you some personal questions which some people may find difficult to answer. Answering these questions honestly is very important so that a clear understanding of some of the needs of the people in Grootfontein can be known in terms of dealing with HIV/AIDS. Your answers are completely confidential. Your name will not be written on any form and none of the information you give will ever be linked back to you or anyone you mention during the interview as it will be anonymous. It will not be possible to identify the information you give me when I write up the report. You do not have to answer any questions you do not want to and you can choose to end the interview at any time if you wished to. The interview will take approximately 10 to 15 minutes. I would appreciate your help in responding to this survey even though I may not be able to financially compensate you for this interview. At this time, do you want to ask me anything about this survey? Would you be willing to participate?

.....

(Signature of interviewer certifying that informed consent has been given verbally by the respondent).

Respondent agrees to be interviewed...1      Respondent does not agree to be interviewed....2

003 Date of interview:..... Time interview started.....

004 Duration of interview (in minutes):.....

LANGUAGE			
Language of interview:.....		Home language of respondent:.....	
Was a translator used? (Yes =1, No = 2).....			
SECTION 1: Background characteristics			
⇒First, I would like to ask some questions about you.			
No.	Questions and filters	Coding categories	Skip to
Q101	Circle sex of the respondent	Male ..... 1 Female ..... 2	
Q102	How old are you?	Age in completed years..... [ ][ ] Don't know.....88	
Q103	What is the highest level of school you attended: primary, secondary, or higher?	No education.....1 Early primary (grades 1-4).....2 Late primary (grades 5-7).....3 Secondary (grades 8-12).....4 Post secondary (>matriculation).....5 Other (specify) .....6	
SECTION 2: Marriage and Cohabiting Partnerships			
⇒Now, I would like to ask you some general questions about marriage and live-in partnerships.			
No.	Questions and filters	Coding categories	Skip to
Q201	Are you married?	Yes .....1 No .....2 No response.....99	→Q203 →Q202
Q202	Do you have a boyfriend / girlfriend?	Yes .....1 No .....2 No response.....99	→Q203 →Q301
Q203	Do you live together with your partner?	Yes .....1 No .....2 No response.....99	
Q204	IF MARRIED: MEN: Do you have more than one wife? WOMEN: Does your husband have other wives?	YES..... 1 NO .....2 NO RESPONSE .....99	
SECTION 3: Alcohol consumption			
⇒The next questions are about drinking alcohol.			
No.	Questions and filters	Coding categories	Skip to
Q301	How many days in a week do you drink alcohol?	Every day.....1 Once a week.....2 2 times a week.....3 3 to 4 times a week.....4 No response.....99	
Q302	How many bottles of beer do you drink on average per occasion?	1 – 7 bottles.....1 8 – 14 .....2 15 – 21.....3 > 21 drinks .....4	
Q303	Have any of the following things ever happened to you?  a) Fail to fulfill major work or home responsibilities because you are drunk.  b) Drinking in situations that are physically dangerous (e.g. while driving a car or operating a machine),  c) Having recurring alcohol-related legal	YES..... 1      NO .....2  YES..... 1      NO .....2  YES..... 1      NO.....2	

	problems such as being arrested for driving under the influence of alcohol or for physically hurting someone while drunk		
Q304	Have you ever felt that you should cut down on your drinking?	Yes .....1 No .....2 No response..... 99	
Q305	Have people annoyed you by criticizing your drinking?	Yes .....1 No .....2 No response..... 99	
Q306	Have you ever felt bad or guilty about your drinking?	Yes .....1 No .....2 No response..... 99	
Q307	Have you ever had an eye opener - a drink first thing in the morning to steady your nerves or get rid of a hangover?	Yes .....1 No .....2 No response..... 99	
Q308	Have you ever experienced the following a) Craving — a strong need, or urge, to drink.  (b) Loss of control — not being able to stop drinking once drinking has begun.  (c) Physical dependence — withdrawal symptoms, such as nausea, sweating, shakiness, and anxiety after stopping drinking.  (d) Tolerance — the need to drink greater amounts of alcohol to get "high."	Yes .....1                      No .....2  Yes .....1                      No .....2  Yes .....1                      No .....2  Yes .....1                      No .....2	
<b>SECTION 4: Sexual history and behavior</b>			
⇒READ OUT: I am going to ask some specific questions about sex and your sexual partners in the last 12 months. I know it may be difficult to remember exactly, but I would like you to answer the questions to the best of your knowledge, as this information is very important for the survey. Again, this information is all completely private and anonymous and cannot be linked to you or any partner in any way. I will begin by asking about your most recent sexual partner and will ask only about the last three partners you have had in the past 12 months. This includes anyone you might have had sex with: husband, wife or wives, girlfriends, boyfriends, friends, casual partners, prostitutes, someone you may have met at a bar, a wedding, a special event, etc.			
No.	Questions and filters	Coding categories	<b>Skip to</b>
Q401	Have you ever had sexual intercourse before? For the purpose of this survey, "sexual intercourse" is defined as vaginal, anal or mouth sex.	YES..... 1 NO.....2	→Q402 →Q501
Q402	At what age did you first have sexual intercourse?	AGE IN YEARS..... [ ] [ ] DON'T KNOW.....88 NO RESPONSE..... 99	
Q403	When was the last time you had sexual intercourse?	Days ago.....1 [ ] [ ] Weeks ago.....2 [ ] [ ] Months ago .....3 [ ] [ ]	
Q404	The last time you had sexual intercourse, did you use a condom?	Yes.....1 No.....2 Do not know.....88	→Q405 →Q407
Q405	Who suggested condom use that time? CIRCLE ONE	Myself.....1 My partner.....2 Joint decision.....3 DON'T KNOW.....88	→Q406
Q406	What was your reason for using a condom?	Respondent wanted to prevent STDs / HIV.1 Respondent wanted to prevent pregnancy...2 Respondent wanted to prevent both STDs / HIV and pregnancy.....3 Did not trust partner / she has other partners4 Partner insisted.....5	
Q407	What was the main reason why you did not use a condom?	Condoms not available.....1 Trusted partner.....2 Partner is HIV negative.....3 Partner refused.....4 Respondent does not like using condoms...5 Forgot.....6 Partner was drunk.....7 Respondent was very drunk.....8	
Q408	What is your relationship to the person	Wife / husband .....1	

	you had sex with the last time?	Girlfriend / Boyfriend.....2 Casual acquaintance.....3 Commercial sex worker.....4 Do not know her/him, only met at the bar...5 Other (specify).....88	
Q409	How many sexual partners do you have?	Only one.....1 Two .....2 Three.....3 More than three.....4 Do not know.....88	
Q410	Have you ever had sex with any other man/woman in the last 12 months?	Yes.....1 No.....2	→Q411 →Q414
Q411	The last time you had sex with any other man/woman, did you use a condom?	Yes.....1 No.....2	→Q412 →Q413
Q412	What was your reason for using a condom?	Respondent wanted to prevent STDs / HIV.1 Respondent wanted to prevent pregnancy..2 Respondent wanted to prevent both STDs / HIV and pregnancy.....3 Did not trust partner / she has other partners4 Partner insisted.....5	
Q413	What was the main reason why you did not use a condom?	Condoms not available.....1 Trusted partner.....2 Partner is HIV negative.....3 Partner refused.....4 Respondent does not like using condoms...5 Forgot.....6 Partner was drunk.....7 Respondent was very drunk.....8	
Q414	Have you ever drunk alcohol in order to enjoy sex?	Yes.....1 No.....2	
Q415	Have you ever drunk alcohol before having sex?	Yes.....1 No.....2	
Q416	How many times did you have sex after drinking alcohol in the last 3 months?	Once.....1 Twice.....2 Three times.....3 More than three times.....4 Do not know.....88 Never.....89	
Q417	The last time you had sex after drinking alcohol, did you use a condom?	Yes.....1 No.....2	→Q418
Q418	What was the reason why you did not use a condom during sex after drinking alcohol?	Condoms not available.....1 Trusted partner.....2 Partner is HIV negative.....3 Respondent knew he / she was HIV negative..4 Partner refused.....5 Respondent does not like using condoms...6 Forgot.....7 Partner was under the influence of alcohol..8 Respondent was under the influence of alcohol .....9 Respondent did not think it was necessary.10 Respondent found it hard to use condom after drinking alcohol.....11	
Q419	In general, how often did you and your most recent girl/boyfriend use a condom when you had sex during the past 12 months? Would you say always, sometimes, or never?	Always.....1 Sometimes.....2 Never.....3 Don't know.....88	
Q420	What about after drinking alcohol, how often did you and your most recent girl/boyfriend use a condom when you had sex during the past 12 months? Would you say always, sometimes, or never?	Always.....1 Sometimes.....2 Never.....3 Don't know.....88	
Q421	Have you ever had sex with a stranger (someone) you met for the first time?	Yes.....1 No.....2	→Q422 →Q423
Q422	Did you use a condom the last time you had sex with a complete stranger you met for the first time?	Yes.....1 No.....2	
Q423	Have you ever had sex with a commercial sex partner?	Yes.....1 No.....2	→Q424 →Q425

Q424	The last time you had sex with a commercial sex partner, did you use a condom?	Yes.....1 No.....2	
Q425	Have you ever paid or been paid for sex?	Yes.....1 No.....2	→Q426 →Q426
Q426	In general, how often did you and the commercial sex partner use a condom when you had sex during the past 12 months? Would you say always, sometimes, or never?	Always.....1 Sometimes.....2 Never.....3 Don't know.....88	
Q427	Have you ever used drugs during sex with anyone	Yes .....1 No .....2 No response..... 99	
<b>SECTION 5: Sexually Transmitted Disease (STDs)</b>			
⇒I am now going to ask you a few questions about sexually transmitted disease			
No.	Questions and filters	Coding categories	Skip to
Q501	Have you ever heard of diseases that can be transmitted through sexual intercourse?	Yes .....1 No .....2 No response.....99	→Q502 →Q601
Q502	Have you had a genital discharge during the past 12 months?	Yes.....1 No.....2 Do not know.....88 No response.....99	
Q503	Have you had a genital ulcer/sore during the past 12 months?	Yes.....1 No.....2 Do not know.....88 No response.....99	
<b>SECTION 6: Knowledge, Opinions and attitudes</b>			
⇒I am now going to ask you some questions about HIV/AIDS			
No.	Questions and filters	Coding categories	Skip to
Q601	Have you ever heard of HIV or the disease called AIDS?	Yes .....1 No .....2 No response.....99	→Q602 →End
Q602	Can people protect themselves from the virus that causes AIDS?	Yes .....1 No .....2 Do not know.....88 No response.....99	→Q603 →Q604
Q603	How can people protect themselves from the virus that causes AIDS? (circle when mentioned correctly)	Using condoms correctly every time they have sex.....1 Having one faithful, non-infected sex partner.....2 By abstaining from sexual intercourse.....3 Do not know.....88 No response.....99	
Q604	Can a person get HIV from a) Mosquito bite?  b) Sharing a meal with someone who is infected?  c) Casual contact (e.g. hugging, kissing, shaking hands, feeding from same plate)?  d) sharing needles or syringes with some one with HIV?	Yes ....1 No ....2 Do not know.....88  Yes ....1 No ....2 Do not know.....88  Yes ....1 No ....2 Do not know.....88  Yes ....1 No ....2 Do not know.....88	
Q605	Do you think that a healthy-looking person can be infected with HIV, the virus that causes AIDS?	Yes .....1 No .....2 Do not know.....88 No response.....99	
Q606	Can a pregnant woman infected with HIV or AIDS transmit the virus to her unborn child?	Yes .....1 No .....2 Do not know.....88 No response.....99	→Q607 →Q608
Q607	Can a pregnant woman pass the virus to her baby through the following ways? a) Intrauterine  b) During delivery  c) Through breastfeeding	Yes ....1 No ....2 Do not know.....88  Yes ....1 No ....2 Do not know.....88  Yes ....1 No ....2 Do not know.....88	
Q608	I don't want to know the result, but have you ever had an HIV test?	Yes .....1 No .....2	

		No response.....99	
Q609	Did you voluntarily undergo the HIV test, or were you required to have the test?	Voluntary .....1 Required.....2 NO RESPONSE .....99	
Q610	Please do not tell me the result, but did you find out the result of your test?	Yes .....1 No .....2 No response.....99	
Q611	In your thinking, is there any need for someone to know their HIV status?	Yes .....1 No .....2 Do not know.....88 No response.....99	
Q612	Is there a cure for AIDS	Yes .....1 No .....2 Do not know.....88 No response.....99	
<b>SECTION 7: HIV risk perception</b>			
No.	Questions and filters	Coding categories	<b>Skip to</b>
Q701	Is there anything you are doing to avoid getting HIV/AIDS?	Yes .....1 No .....2 No response.....99	<b>→Q702</b> <b>→Q703</b>
Q702	What are you doing? RECORD EXACTLY WHAT IS SAID <hr/>	Always to use condoms.....1 Sometimes to use condoms.....2 To have one faithful partner.....3 Other changes .....4 (Specify)	
Q703	Do you think you have no risk, a small risk, a moderate risk or a great risk of getting the HIV virus in the next 12 months?	No risk.....1 Small risk.....2 Moderate risk.....3 Great risk.....4 Already infected.....5 Do not know.....88 No response.....99	<b>→Q704</b>
Q704	What is the main reason why you say so? DO NOT READ OUT THE ANSWERS; JUST CIRCLE ONE.	Abstaining.....1 Has one partner only.....2 Always uses condoms.....3 I sometimes use condoms.....4 Uses contraceptives.....5 Uses traditional medicines.....6 Has sex with a virgin.....7 Partner is faithful.....8 No needle use.....9 No blood contact.....10 There is no such a thing as AIDS.....11 It cannot happen .....12 Has multiple partners.....13 Partner is infected already.....14 Has unprotected sex.....15 Other.....16 (Specify)	
Q705	Do you think most of your close friends are at risk of getting the HIV virus?	Yes .....1 No .....2 Do not know.....88 No response.....99	

That is the end of my questionnaire. Thank you very much for taking time to answer these questions. I appreciate your help.

Time interview ended:.....