



Alcohol Use and Sexual Behaviour among Men who have Sex with Men in Kampala, Uganda

Geoffrey Kabaale^{1*}, Gloria Seruwagi², Noah Kasunumba³, Catherine Nakidde⁴
and Eric Lugada⁵

¹The AIDS Support Organization (TASO) Uganda Limited, Entebbe Branch, Uganda.

²Department of Health Policy, Planning & Management - Makerere University School of Public Health, Uganda.

³The AIDS Support Organization (TASO) Uganda Limited, Tororo Branch, Uganda.

⁴Department of Public Health, Victoria University Kampala, Uganda.

⁵Applying Science to Strengthen and Improve Systems (ASSIST) Project, URC Co. LLC, Uganda.

Authors' contributions

This work was carried out in collaboration between all authors. Authors GK, GS and EL designed the study. Authors GK and NK analysed the data with support from the others. Author CN managed the literature searches and referencing. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/ISRR/2017/35920

Editor(s):

(1) Kailash Gupta, Division of AIDS, NIAID, NIH, USA.

Reviewers:

(1) Masoud Mohammadnezhad, Fiji National University, Fiji.

(2) Ashlesha Kaushik, St. Joseph's Children's Hospital, USA.

Complete Peer review History: <http://www.sciencedomain.org/review-history/20926>

Original Research Article

Received 2nd August 2017
Accepted 29th August 2017
Published 11th September 2017

ABSTRACT

Aim: The aim of this study was to investigate alcohol use among men who have sex with men (MSM) in the Kampala Metropolitan District, and determine how alcohol use may relate to sexual behavior.

Study Design: A cross sectional study was conducted among MSM aged 18 years and above.

Place and Duration of Study: The study was conducted in Uganda's Kampala Metropolitan District (including the neighboring suburbs of Mukono and Wakiso). Data collection was undertaken between June and September 2016.

Methods: A mixed-methods study which used Respondent-driven sampling (RDS) to recruit MSM ≥18 years who reported anal sex with another man in the previous six months. MSM were interviewed in over 6 waves. Quantitative data was collected using semi-structured questionnaires

and analyzed using SPSS and STATA while qualitative data was collected using focus group discussions, key informant guides and analyzed thematically.

Results: A total of 129 MSM participated in the study with a median age of 25 years (inter quartile range, 21–29 years). The prevalence of alcohol use was 84% [CI (76%-91%)] while knowledge on national laws restricting alcohol use was 66%. Taking alcohol before sex had a significant relationship ($p=0.011$) as did membership in a Community-based Organisation (CBO) - MSM in CBOs were 8 times more likely to be involved in sex work ($p=0.005$) with alcohol use. Bivariate analysis indicated that higher education level reduced the chances of engaging in sex work by 78%. However alcohol use did not influence unprotected Insertive Anal Intercourse (IAI) ($p = 0.517$), Receptive Anal Intercourse (RAI) ($p = 0.768$) or coercion into sex ($p= 0.058$).

Conclusion: Majority of MSM use alcohol to enhance confidence and pleasure while knowledge of the laws restricting its usage and dangers does not determine use. It is therefore essential to address mostly the behavioral issues associated with alcohol use in order to achieve reduction of alcohol-related problems and sexual illnesses including HIV among high-risk populations.

Keywords: SRH; MSM; risky sexual behavior; gay men; sexual health; Uganda

1. INTRODUCTION

Global studies have found excessive alcohol consumption to be common among Men who have Sex with Men (MSM) with a prevalence of 80% to 90% in USA [1,2], 60% in India [3] and 65% in Ghana [4]. This is partly attributed to their underlying beliefs, attitudes and associated behaviors [5]. MSM are also thought to use alcohol for its intoxicating effects and scripts in their sexual encounters as part of socializing or engaging in sexual behavior [6,7]. Alcohol is largely available and World Health Organisation (WHO) estimates an average consumption by adults 15 years and older to be 6.2 liters of pure alcohol from beer, wine and spirits each year and 6 liters for the African region [8]. The WHO Global Status report [8] on alcohol indicated that in Uganda, 23.7 liters of pure alcohol were consumed per capita each year. This is nearly 4 times higher than both the global and the African Region average ranking Uganda first among the East African countries in per capita alcohol consumption [8].

Alcohol use is associated with HIV- related sexual risk behavior across a range of male populations [9,10]. For a country like Uganda which is experiencing a second wave of new HIV infections since 2002 and a rise in prevalence from 6.4% to 7.3% [11] studying the MSM population on alcohol use and associated sexual behavior would give a useful insight into the prevalent situation. The associated stigma surrounding MSM and the criminalization of same-sex behavior not only affects access to care but may also lead to alcohol use as a

coping strategy thereby decreasing awareness of social norms or what is perceived as acceptable behavior [9,10].

The elevated risk of alcohol use among MSM is partly believed to be a result of experiencing discrimination and stigma from the general population unlike their heterosexual counterparts [12]. However, limited information is available on alcohol use and sexual behavior among MSM in Uganda in spite of its reported association with related sexual risk in several studies in other countries including studies on MSM [13]. Therefore, identifying and addressing risk factors that facilitate risky sexual behavior among MSM are vital to reduction of global disease burden for alcohol and diseases associated with risky sexual behavior [14]. In addition, bisexuality among MSM in Uganda is common [15]; hence posing a possibility of MSM being future drivers of the HIV epidemic. However, exhaustive public health research among MSM is inadequate in Uganda due to the restrictive legal environment and severe stigma leaving significant knowledge gaps, including an in-depth understanding of alcohol use and sexual behavior. In addition to data paucity, existing research [9] generally lacks national representation and the current picture of alcohol consumption in Uganda is pieced together from multiple surveys and studies [9,10] that have been conducted at various times.

This study sought to contribute to existing knowledge by examining the association of alcohol use and sexual behavior among MSM in Kampala using both qualitative and quantitative approaches. The objectives of the study were to:

1. Determine the prevalence of alcohol use among the MSM as well as the explanatory factors.
2. Assess the knowledge of MSM on alcohol use
3. Investigate the association between alcohol use and sexual behavior amongst MSM.

2. METHODS

2.1 Study Design

We conducted a cross-sectional study among MSM aged 18 years and above to determine the prevalence of alcohol use, assess the knowledge and establish the relationship between alcohol use and its associated sexual behavior among MSM. The study used both quantitative and qualitative approaches.

2.2 Study Area Description

This study was conducted in Kampala (Uganda's capital city) and the neighboring towns categorized to be in the Kampala Metropolitan District [16]. The study area is estimated to have approximately 65% of the MSM population in the country [17] many of whom are accessing healthcare and support services through established MSM Community Based Organizations (CBOs) and mainstream Non-Governmental organizations (NGOs) [18].

2.3 Sample Size and Sampling Procedure

A total of 129 MSM aged 18 years and above who self-reported at least one episode of anal or oral intercourse with another man in the preceding 6 months were recruited using a respondent driven sampling (RDS) technique [19] from the Kampala Metropolitan District. RDS is peer-to-peer recruitment which embraces the principles of snowball and relies on populations being connected through social networks. Consent was sought from all participants.

2.4 Sample Size Calculation

The sample size used for this study was calculated based on the prevalence of harmful alcohol use among MSM in Kenya [16] which is neighboring Uganda since both countries share a lot in common. Using a 15% harmful alcohol user rate among MSM in Kenya [20] with 95% confidence limit, a total of 263 MSM was required for the study.

2.5 Instruments

Structured questionnaires, in-depth Interview and focus group discussion (FGD) guides were used for data collection. The Principal Investigator (PI) collected the FGD data. FGDs were held in places that were deemed secure for both the participants and the Interviewer. General comments or questions were posed to the group and all participants were given an opportunity to contribute. The sessions lasted between 30 to 45 minutes. The tools were pretested in the neighboring town similar to the study area prior to data collection.

2.6 Data Management and Analysis

All documents were checked for consistency and accuracy and were entered into Epi-info. SPSS and STATA version 12 were used for data analysis. The association between independent (socio-demographic characteristics of MSM, knowledge, alcohol use) and dependent variables (sexual behavior/sex work, non-condom use, coercion) were explored using Pearson Chi squared tests and odds ratio. Univariate and multivariate regressions were used to determine associations of alcohol use and sexual behavior. Qualitative data was analyzed thematically.

2.7 Ethical Considerations

The levels of social stigma towards marginalized communities like MSM and the prevailing legal environment in Uganda makes this a highly sensitive area which has to be concealed from public attention. Measures of confidentiality, privacy and anonymity were employed to reassure participants that their information was safe. Scientific and ethical approvals were sought from the University's Institutional Review Board (IRB) and the TASO Research and Ethics committee (REC) respectively (TASOREC/22/17-UG-REC-009). Research assistants signed confidentiality clauses which were approved by the principal investigator and the organizational top manager. Participants were required to consent and were free to withdraw from the study at any particular time as they wish. Study participants were issued with a written informed consent detailing the study, the risks and benefits, emphasis on the protection of confidentiality and anonymity. Descriptions of participants' age, sexual identity and town are used throughout the findings.

3. RESULTS AND DISCUSSION

3.1 Results

3.1.1 Demographic characteristics of MSM

Among the 129 study participants, majority (65%) were aged between 18 and 24 years while 35% were 25 years and above. The biggest proportion of participants was gay (65%) and the remainder (35%) bisexual. Most of the respondents had attained secondary education with 31% for Ordinary level and 30% Advanced level while 28% had Tertiary education with the least proportion (11%) having primary education. The predominant religious affiliation was Catholic (39%) followed by Anglicans (26%), Muslims and Pentecostals tied at 18%.

Majority (38%) of the study participants were Baganda, followed by Banyankole (13%), Bakonjo (10%), Basoga (8%), Bagisu (7%), Itesots (5%) and Batooro (5%). Other tribes included Japadhola (1%), Kumam (1%), Banyarwanda (7%), Banyoro, (2%), Samya (2%), Lugbara (2%) and Bakiga (2%). The respondents who resided in Kampala were 48% while those from Wakiso were 52%. Income distribution among the respondents per month was 53% for those who earned less than Shs.100,000 UGX (USD 28), 32% for income range Shs.100,000 to 300,000 UGX (USD 28-115) and 15% for Shs.300,000 to 600,000 UGX (USD 115 -167).

3.1.2 Prevalence of alcohol use among the MSM

The study sought to determine the prevalence of alcohol consumption among the MSM and it was found to be 84% [95% CI (76%-91%)] with only 16% of MSM reporting not to be alcohol consumers. Similarly qualitative data also showed that many MSM used alcohol as shown in the excerpt below:

Drinking is a Ugandan culture, even the so called 'straights' [heterosexuals] are fond of drinking but the only difference is that we [MSM] are so stigmatized by society and in our case almost all the MSM that I know are heavy drinkers.

(22 year old, Gay -FGD, Kawaala, Wakiso)

Table 1. Demographic characteristics of MSM

| | |
|-------------------------------------|----------|
| Age | |
| Median | 25 |
| Inter-quartile | 21-29 |
| 18-24 | 84 (65%) |
| 25+ | 45 (35%) |
| Sexual identity | |
| Gay | 84 (65%) |
| Bisexual | 45 (35%) |
| Education level | |
| Primary | 14 (11%) |
| O level | 40(31%) |
| A level | 39 (30%) |
| Tertiary | 36 (28%) |
| Religion | |
| Anglican | 33(26%) |
| Catholic | 50 (39%) |
| Muslim | 23 (18%) |
| Pentecostal | 23 (18%) |
| Tribe | |
| Muganda | 49 (38%) |
| Gishu | 9 (7%) |
| Itesot | 7 (5%) |
| Japadhola | 1 (1%) |
| Kumam | 1 (1%) |
| Lugbara | 2 (2%) |
| Mukiga | 2 (2%) |
| Mukonjo | 10 (8%) |
| Munyankole | 16 (13%) |
| Munyarwanda | 9 (7%) |
| Munyoro | 3 (2%) |
| Mutooro | 7 (5%) |
| Samya | 2 (2%) |
| Musoga | 10 (8%) |
| Location/Residence | |
| Kampala | 61 (48%) |
| Wakiso | 67 (52%) |
| Income range | |
| Less than 100,000/=(USD 28) | 66 (53%) |
| 100,000 to 300,000/=(USD 28-115) | 39 (32%) |
| 300,000 to 600,000/=(USD 115 -167) | 19 (15%) |

Study findings also showed that the MSM community relied a lot on drinking alcohol. The drinking pattern was categorized as normal when a person drank 2 or less drinks at a given moment and is able to perform routine activities; hazardous when he took 6 or more drinks at a given moment and this happened 4 or more times a week and Harmful use when one took 6 or more drinks at a given moment and gets intoxicated to the level of failing to remember what happened or caused injury to self or others [21]. Among those who drank, 32% had normal

drinking behavior while 35% had hazardous drinking behavior and 33% had harmful drinking behaviors. This finding was also supported by data from the qualitative findings as seen in the excerpt below:

I take alcohol daily and have scars to show for this.... relatives have tried to talk to me but....man; I keep drinking
(27years, bisexual)

3.1.2.1 Bivariate analysis on prevalence of alcohol use with age, sexual identity, income, Education level and belonging to CBO

The prevalence of drinking was strongly associated with membership into MSM CBO (p = 0.002) and Income level (p =0.042). Age, Sexual identity and Education level were not associated

with taking alcohol (p = 0.191, 0.758, 0.266 respectively) and therefore do not influence alcohol taking as seen in Table 2.

3.1.3 Knowledge of MSM on Alcohol Use

Awareness of the laws restricting alcohol intake and dangers of alcohol is presented below.

3.1.3.1 Awareness on existing laws among the different sexual identities

Awareness of existing laws was high (66%) among MSM however there was a difference noticed among gay participants (63%) and the bisexual (71%). Although there was no association between sexual identities and awareness of the laws (p = 0.166).

Table 3 illustrates this further.

Table 2. Relationship between alcohol use and age, sexual identity, income, education level and belonging to a CBO

| Age | Do you take alcohol? | | | p_value |
|--------------------------------|----------------------|-----|-------|---------|
| | No | Yes | Total | |
| 18-24 | 11 | 72 | 83 | 0.191 |
| 25+ | 10 | 35 | 45 | |
| Total | 21 | 107 | 128 | |
| Sexual Identity | | | | |
| Gay | 13 | 70 | 83 | 0.758 |
| Bisexual | 8 | 37 | 45 | |
| Total | 21 | 107 | 128 | |
| Education level | | | | |
| Below primary | 1 | 13 | 14 | 0.266 |
| O-level | 4 | 35 | 39 | |
| A-level | 7 | 32 | 39 | |
| Tertiary | 9 | 27 | 36 | |
| Total | 21 | 107 | 128 | |
| Income level | | | | |
| Less than 100,000 | 9 | 57 | 66 | 0.042 |
| 100,000-300,000 | 5 | 34 | 39 | |
| 300,000-600,000 | 7 | 12 | 19 | |
| Total | 21 | 103 | 124 | |
| Membership into MSM CBO | | | | |
| No | 12 | 25 | 37 | 0.002 |
| Yes | 9 | 82 | 91 | |
| Total | 21 | 107 | 128 | |

Table 3. Showing awareness of existing alcohol laws by sexual identities

| Sexual Identity | Awareness on Alcohol laws | | p-value |
|-----------------|---------------------------|----------|---------|
| | Yes | No | |
| Gay | 53 (63%) | 31 (37%) | 0.166 |
| Bisexual | 32 (71%) | 13 (29%) | |
| Total | 85 (66%) | 44 (32%) | |

The findings from the qualitative data did not also show in-depth knowledge on alcohol laws in the country. The excerpt below expresses the knowledge on this:

I do know that alcohol is not meant to be taken by children (less than 18 years). Whether these laws are serious it's up for debate. I have watched arrests for motorists on TV but I don't know how much drinking is allowed before being arrested?

(23yrs, Gay, Kampala)

The knowledge levels on the associated dangers were expressed by participants where they indicated that alcohol led to a myriad of social, physical and psychological problems that can affect the individual and the people around:

Over use of alcohol can lead to loss of a job, respect from society and can lead to having sex without a condom. Many young men have ended up in regrettable situations due to alcohol

[32 year old, (Bisexual) Makindye FGD, Wakiso]

Several medical complications were mentioned by the participants and it was evident that they were informed as shown in the response below:

Alcohol leads to mental disorders, damage to vital organs like the liver, cancer and accidents

(25 year old, gay, Entebbe, Wakiso)

3.1.4 Association between alcohol use and sexual behaviors among MSM

The findings showed that 57% of those who took alcohol engaged in sex work with a significant relationship ($p= 0.005$), while those who used alcohol, engaged in sex work without a condom during Insertive Anal Intercourse (IAI) were 76% ($p = 0.517$) or Receptive Anal intercourse (RAI) were 81% ($p = 0.768$), coercion into sex when drunk was 57% ($p= 0.058$). These findings are shown in the Table 4.

There was a shared belief that alcohol intake before sex helps with all sexual identities and this belief had a significant ($p=0.011$) relationship. This finding was further reinforced by discussion from FGDs:

I cannot have sex before drinking alcohol; it helps me to get in the mood. Of course this happens mostly if I am with someone who I don't love

(23 year old university student, sex worker, Wakiso FGD)

The gays do not drink the same quantities of beers compared to the transgender people. This is because the levels of discrimination and stigma defers.

(Wakiso FGD)

Table 4. Association between alcohol consumption and sexual behavior

| | Do You Take Alcohol | | | X ² | p-value |
|--------------------------------------|---------------------|--------|----------------------------|----------------|---------|
| | Yes (%) | No (%) | (% engagement in sex work) | | |
| Engage in sex work | | | | | |
| 1-Yes (n=63) | 57 | 17 | 51 | 10.241 | 0.005 |
| 2-No (n=64) | 43 | 83 | 49 | | |
| Total (%) | 100% | 100% | 100% | | |
| Sex without condom during IAI | | | | | |
| 1-Yes (n=93) | 76 | 68 | 75 | 0.5417 | 0.517 |
| 2-No (n=34) | 24 | 32 | 25 | | |
| Total (%) | 100% | 100% | 100% | | |
| Sex without condom during RAI | | | | | |
| 1-Yes (n=97) | 81 | 78 | 81 | 0.0853 | 0.768 |
| 2-No (n=30) | 19 | 22 | 19 | | |
| Total (%) | 100% | 100% | 100% | | |
| Ever been coerced | | | | | |
| 1-Yes (n=65) | 57 | 28 | 52 | 5.0613 | 0.058 |
| 2-No (n=62) | 44 | 72 | 48 | | |
| Total (%) | 100% | 100% | 100% | | |

3.1.4.1 Other factors associated with sex work

Further analysis on factors associated with sex work revealed that belonging to MSM CBO and having reached tertiary level of education (compared to those who never exceeded primary) significantly determine whether MSM will be involved in sex work or not. MSMs who take alcohol are 6 times likely to be involved in Sex work compared to their counterparts who do not take alcohol. Likewise MSMs who belong to MSM CBO are more than 8 times likely to be involved in sex work than those who are not in any CBO. Finally, having attained an education level beyond A-level reduces the chances of an MSM engaging in Sex work by 78%.

| | | | |
|-----------------------------|---------------|---|--------|
| Logistic regression | Number of obs | = | 127 |
| | LR chi2(5) | = | 43.28 |
| | Prob > chi2 | = | 0.0000 |
| Log likelihood = -66.383353 | Pseudo R2 | = | 0.2459 |

| DoYouEngageSexWork | Odds Ratio | Std. Err. | z | P> z | [95% Conf. Interval] | |
|--------------------|------------|-----------|-------|-------|----------------------|----------|
| DoYouTakeAlcohol | 5.97141 | 4.448744 | 2.40 | 0.016 | 1.386518 | 25.71747 |
| N32DoYouBelongCBO | 8.587798 | 4.728885 | 3.91 | 0.000 | 2.918544 | 25.26954 |
| EducationLevel | | | | | | |
| O-level | .553799 | .4018883 | -0.81 | 0.415 | .133549 | 2.296485 |
| A-level | 1.509263 | 1.124926 | 0.55 | 0.581 | .3502065 | 6.504381 |
| Tertiary | .2174965 | .1642503 | -2.02 | 0.043 | .0495036 | .9555816 |
| _cons | .06724 | .0655707 | -2.77 | 0.006 | .0099439 | .4546709 |

Qualitative data also indicated that sex work was also noted to be a common practice and alcohol consumption facilitated this work.

Alcohol helps me to gain confidence and interact well with potential clients.
[IDI with 24 years, Gay, Wakiso]

The leaders in the MSM Community Based Organizations (CBOs) demand sex from the young boys when they report to them seeking for help
(27 year old, bisexual, Entebbe)

3.2 Discussion

3.2.1 Prevalence of alcohol use among MSM

The majority (84%) of MSM were taking alcohol, with cases of hazardous (35%) and harmful (33%) drinking observed. This finding is similar to that in Kenya and South Africa [19,20] and it is further supported by the Indian studies [6,7] showing that whereas drinking alcohol could be common among high risk groups like Female Sex workers (FSWs) it was more pronounced in

MSM. The study also reported that drinking patterns were influenced by other factors among which included membership to MSM CBO and Income level. The MSM CBOs provided a conducive social environment. Findings of this study showed that respondents mainly preferred drinking with friends (45%) and sexual partners (30%). It however emerged that whereas age determined the prevalence of drinking in the China and USA studies [5,1] this study's findings differed. This is attributed to the low income status of the Ugandan MSM among whom majority earned less than one hundred thousand shillings (100,000/= (USD 28)). Other factors that did not carry much significance were sexual identity (i.e. gays Vs Bisexuals) and education level. This could be because although discrimination among the MSM exists it is not very pronounced between the gays and bisexuals. There was a tendency of covering up their sexual orientation in society through cohabiting with female partners which is accepted among the Ugandan MSM community unlike the sexual minority groups in Europe, Asia and North America.

Study participants' also drank beers and spirits mostly which are packaged for easy portability (spirits mainly). This, and the relaxed nature of alcohol regulations provides a conducive environment for alcohol drinking. It therefore comes with no surprise that hazardous and harmful drinking were easily observed in young people which concurs with reports from UAPA [21,22] and highly stigmatized groups like MSM. The drinking habit therefore is likely to be attributed to factors of homophobia, stigma and discrimination that MSM face in society and among health service providers. It therefore affects their health seeking behavior and instead worsens their health living habits.

3.2.2 Knowledge of MSM on alcohol use

MSM awareness on existing laws was found to be relatively high (66%), implying that generally majority had acquired information on this. The findings showed that the levels of knowledge among the different sexual identities varied with bisexuals being more knowledgeable (71%) compared to the Gays (63%). This finding is different from the Indian study [6,7] which reported less knowledge levels for bisexuals. Their involvement in heterosexual relationships reduced their interactions with MSM CBO staff for fear of being discriminated against by peers for marrying a woman yet it is in such meetings that health related information was shared. The depth of conceptualizing alcohol laws was left wanting with many not being very specific on the quantities that are illegal in case of drunk driving. The MSM therefore adopted a practice of taking alcohol as a way of masking societal expectations and its moral requirement. Alcohol consumption was normalized among MSM as a defensive mechanism since their sexual orientation was generally negatively perceived by society. This finding is consistent with studies among the Chinese [5] who attributed alcohol consumption to the challenges faced by sexual minority men including heightened levels of homophobia. Societal discrimination therefore, made MSM vulnerable to use of alcohol because they felt more comfortable with peers. This and the lack of family guidance contributed to MSM relating more with sexual minority cultures where alcohol is a normalized practice that contributed to the behavior. The Ugandan study [10] and Ghanaian study [4] also noted high possibilities of using alcohol to reduce inhibitions associated with gay related stigma.

3.2.3 Association between alcohol use and sexual behaviors among MSM

This study observed a significant relationship between taking alcohol before sex. Intoxication is a coping mechanism developed by the MSM because being intoxicated with alcohol would relieve pain while in the act, increase the sexual urge and help in 'transactional sex' (sex work). Similar observations were made in other studies [7,23,24] citing alcohol to be an inhibitor on their innate family and social values. Socializing with peers (30%) was a major contributor to the habit of alcohol consumption among MSM, which is synonymous with findings in China [5] in that the unique challenges that are faced by MSM lead them to members of the same community. It is from within these social networks that sexual relations are acquired as cited by the respondents. These gatherings are characterized by alcohol and sex among participants.

Engaging in sex work had a significant relationship with alcohol intake. The sex workers attributed this to work which earns them a living. They lacked professional qualifications which rendered them jobless. Being 'high' on alcohol gave them the stamina and baldness to approach 'clients' in gay bars and other designated places. This study's finding concurred with the Kenyan study [19]. Alcohol use was also reported to help the sex workers with engaging in sex with multiple partners in one night and to mask the 'shame'. Sex work was not only limited to male partners but also to the female clients. The other risky sexual behaviors like sex without a condom whether during insertive or receptive anal intercourse and being coerced into sex were not significantly associated with taking alcohol among MSM. This finding was different from other studies [3,7] that found inconsistent condom use among alcohol drinkers. The difference in this finding is attributed to the HIV prevention messages that target Most at Risk Populations (MARPs) like sex workers and MSM where condom use is emphasized and this is religiously followed by many sex workers.

Adjusting the factors that have association with engaging in sex work confirmed that MSM who took alcohol were 6 times more likely to be involved in sex work compared to those who did not was in agreement with other studies [2,3,25]. Another Ugandan study [17] found that alcohol use before sex was 5 times more likely to occur with odds of selling sex 3 times higher. While MSM who belonged to MSM CBO were more (8

times) likely to be involved in sex work, education beyond A-level reduced the chances of engaging in sex work (by 78%). The 'closeted' nature of Ugandan MSM contributed to a narrow sexual network due to the small numbers. Those who have membership in these CBOs get known by others and there is a likelihood of them being hooked up by potential customers who approach these CBOs. Membership to a CBO also means sharing the same social media network which is a very important information sharing tool for MSM as reported. The less educated were very vulnerable to being lured into more risky sexual behaviors because they lacked basic skills for formal employment and were economically not empowered. The social exclusion from schools, family set ups and the health sector increased the vulnerabilities of the MSM hence leading them into harmful habits like alcohol use and more unsafe sexual behavior.

4. CONCLUSION AND RECOMMENDATIONS

4.1 Conclusion

Alcohol use was found to be highly prevalent (84%) among MSM and is a normalized habit at every social gathering with in this community. Although alcohol use could not be entirely categorized to be abnormal amongst the users, hazardous and harmful users exist with negative effects of failing to access healthcare due to associated stigma and discrimination. Moreover the neurological nature of alcohol dependence is a mental disorder which on its own requires specialized support.

The knowledge of MSM on alcohol did not determine its use among MSM. Instead the practice of drinking was mainly attributed to the culture of MSM as a socializing agent to avert the stigma and discrimination that they face in society. Bisexual participants were more knowledgeable than gay participants contrary to other studies which indicated otherwise.

Alcohol use influenced the sexual behavior of MSM since they believed that taking alcohol before sex helped. Alcohol taking, membership to MSM CBO and education below tertiary level significantly determined whether MSM would be involved in sex work or not. Sex without a condom whether during Insertive Anal Intercourse (IAI) or Receptive Anal Intercourse (RAI) and also being coerced to have sex were

not significantly associated with taking alcohol among the MSMs.

4.2 Recommendations

The findings of this study showed a number of gaps relating to MSM and alcohol use. One key issue is how deeply entrenched risky behavior can be within this population, in spite of knowledge and stringent regulation. We recommend:

- Continuous Behavioral Change Communication (BCC) on the effects of alcohol consumption among MSM which, for more impact, should be conducted targeting the MSM CBO leadership and members.
- HIV/AIDS interventions should address the harmful habits like alcohol taking that seem to be normalized within the MSM community. This can be addressed through developing data collection tools that screen for illicit drug use.
- Focused Continuous Professional Education for health workers on the public health effect of not having interventions for MSM community. Key population programming interventions should address all categories since there is evidence showing the existence of MSM in society. This is likely to reduce on the levels of stigma within health units
- Integrated service provision for mental health and comprehensive HIV/AIDS Care should be implemented at all health facilities. This should go hand in hand with the scale up for key population service provision.

CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the authors.

ETHICAL APPROVAL

All authors hereby declare that the study and all activities were approved by the appropriate ethics committee and have therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Woody GE, Donnell D, Seage GR, Metzger D, Marmor M, Koblin BA. Non-injection substance use correlates with risky sex among men having sex with men: Data from HIVNET. *Drug and Alcohol Dependence*. 1999;53(3):197-205.
2. Newcomb ME, Ryan DT, Greene GJ, Garofalo R, Mustanski B. Prevalence and patterns of smoking, alcohol use, and illicit drug use in young men who have sex with men. *Drug and Alcohol Dependence*. 2014;141:65-71.
3. Bitra G, Diwakar Y, Venkatesan C, Prabuddhagopal G, Shreena R, Lakshmi R, et al. Behaviors among Men Who Have Sex with Men (MSM): Findings from a Multi-Site Bio-Behavioral Survey in India; 2014.
4. Sabin L, Beard J, Agyarko-Poku T, DeSilva MB, Green K, Wambugu S, Esang M, Ashigbie P, Rahman YA, Akuoko K, Opoku KB. Exploring the beliefs, attitudes, and behaviors of MSM engaged in substance use and transactional sex in Ghana. Boston, MA: Boston University Center for Global Health and Development; 2013 Mar.
5. Nehl EJ, Wong FY, He N, Huang ZJ, Zheng T. Prevalence and correlates of alcohol use among a sample of general MSM and money boys in Shanghai, China. *AIDS Care*. 2012;24(3):324-330.
6. Mimiaga MJ, Thomas B, Mayer KH, Reisner SL, Menon S, et al. Alcohol use and HIV sexual risk among MSM in Chennai, India. *Int J STD AIDS*. 2011; 22:121-5.
7. Mimiaga MJ, Biello KB, Sivasubramanian M, Mayer KH, Anand VR, et al. Psychosocial risk factors for HIV sexual risk among Indian men who have sex with men. *AIDS Care*. 2013;25(9):1109-13.
8. World Health Organisation. Global status report on alcohol and health; 2014.
9. Kajubi P, Kanya MR, Raymond HF, Chen S, Rutherford GW, Mandel JS, et al. Gay and bisexual men in Kampala, Uganda. *AIDS and Behavior*. 2008;12(3):492.
10. Musinguzi G, Bastiaens H, Matovu JK, Nuwaha F, Mujisha G, Kiguli J, et al. Barriers to condom use among high risk men who have sex with men in Uganda: a qualitative study. *PloS One*. 2015;10(7):e0132297.
11. Ministry of Health. The HIV and AIDS Uganda country progress report 2014; 2014
12. KCCA. Kampala Capital City Authority strategic plan 2014-2019; 2013.
13. Newcomb ME, Ryan DT, Greene GJ, Garofalo R, and Mustanski B. Prevalence and patterns of smoking, alcohol use, and illicit drug use in young men who have sex with men. *Drug Alcohol Depend*. 2014;141:65-71.
14. Shuper PA, Joharchi N, Irving H, and Rehm J. Alcohol as a correlate of unprotected sexual behavior among people living with HIV/AIDS: review and meta-analysis. *AIDS Behav*. 2009;13: 1021-36.
15. Barker J, Hakim A, Hladik W, Ssenkusu JM, Opio A, Tappero JW, Serwadda D. Crane survey group 2009, HIV infection among men who have sex with men in Kampala, Uganda- A Respondent Driven Sampling Survey, *PLoS One*. 2012;7(5): e38143. (Pub Med)
16. The Crane Survey. Men having sex with men (MSM) in Kampala Stakeholders meeting December 9, 2009
17. Kim EJ, Hladik W, Barker J, Lubwama G, Sendagala S, Ssenkusu JM, et al. Sexually transmitted infections associated with alcohol use and HIV infection among men who have sex with men in Kampala, Uganda; 2015. Available:<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3058799/pdf/nihms243825.pdf>
18. The AIDS Support Organisation (TASO) Entebbe and Mulago. Annual Activity Reports; 2015.
19. Heckathorn DD. Respondent-driven sampling: A new approach to the study of hidden populations. University of California Press. 1997;44(2):174-199. Available:<http://www.jstor.org/stable/3096941>
20. Luchters S, Geibel S, Syengo M, Lango D, King'ola N, Temmerman M, et al. Use of AUDIT, and measures of drinking frequency and patterns to detect associations between alcohol and sexual behaviour in male sex workers in Kenya. *BMC Public Health*. 2011;11(1):384.

21. Halkitis PN, Siconolfi DE, Stults CB, Barton S, Bub K, Kapadia F. Modeling substance use in emerging adult gay, bisexual, and other YMSM across time: The P18 cohort study. *Drug and Alcohol Dependence*. 2014;145:209-16.
22. Lane T, Raymond HF, Dladla S, Rasethu J, Struthers H, McFarland W, McIntyre J. High HIV prevalence among men who have sex with men in Soweto, South Africa: results from the Soweto Men's Study. *AIDS and Behavior*. 2011;15(3): 626-34.
23. Sekanjako H. Activists want alcohol consumption age revised. *The New Vision*. 2016;31:186.
24. World Health Organisation. *The Alcohol Use Disorders Identification Test, Guidelines for Use in Primary Care 2nd edition*; 2001.
25. Hladik W, Barker J, Ssenkusu JM, Opio A, Tappero JW, Hakim A, et al. HIV infection among men who have sex with men in Kampala, Uganda—a respondent driven sampling survey. *PLoS One*. 2012;7(5): e38143. DOI: 10.1371/journal.pone.0038143 Epub 2012 May 31. PMID: 22693590 Accessed electronically, September 2015.

© 2017 Kabaale et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:
The peer review history for this paper can be accessed here:
<http://sciencedomain.org/review-history/20926>