

Alcohol Consumption in Uganda

Literature Review

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I. Alcohol Consumption

Background

Alcohol is no ordinary commodity. It has been part of human civilization for thousands of years. Alcoholic beverages are produced by the fermentation of yeast, sugars and starches. Ethyl alcohol or ethanol is the intoxicating ingredient in alcohol beverages. Alcohol is a depressant; it slows down the function of the central nervous system. It can impair judgment and alter a person's emotions, perceptions, movements and reactions, vision and hearing. When consumed in small amounts, it can help a person feel relaxed and less anxious. When consumed in larger quantities, alcohol can have detrimental effects on one's health as well as social relations and financial well-being.

Average consumption in Uganda and the world

The World Health Organization estimates that there are about 2 billion people worldwide that consume alcohol. Of the 2 billion, approximately 76.3 million have a diagnosable alcohol use disorder, such as excessive drinking and alcohol dependence. Worldwide, adults (age 15 years and older) consume on average 5 liters of pure alcohol from beer, wine and spirits each year. For the Africa region, the adult (15 years and older) consumption of alcohol is about 4 liters of pure alcohol each year. The WHO Global Status Report on Alcohol released in 2004 showed that in Uganda, 19.47 liters of pure alcohol are consumed per capita each year. This is nearly 4 times higher than the worldwide average and 5 times higher than the Africa region average, making Uganda ranked number 1 from 189 WHO member states in level of alcohol consumption. 19.47 liters of pure alcohol is about 1.62 liters of pure alcohol consumed each month. If one standard drink equals 15.2 mL of pure alcohol (12g of pure alcohol equals 15.2 mL in volume, which is defined as a standard drink in the study from which this WHO data comes from), this would average to approximately 107 drinks/month consumed per capita in Uganda. The second ranked WHO member state after Uganda is Luxembourg with an adult (15 years and older) average annual consumption of 17.54 liters of pure alcohol. (1).

David Basangwa, an alcohol expert in Uganda and psychiatrist who works in treating alcoholism at Butabika Mental Referral Hospital, disputes this number since the data for Uganda in this WHO report are derived from regional studies that targeted areas with known higher consumption of alcohol. He puts the volume of alcohol consumption closer to 15 liters per capita. He admits that this number is still very high as it would average to approximately 82 drinks/month rather than 107 as reported by WHO (2).

Types and sources of alcohol consumed in Uganda

Uganda is abundantly supplied with alcoholic beverages; from imported beer, wine and liquor to beer produced in factories in the country to informally produced beer and distilled liquor in local makeshift bars and homes.

There are a variety of factory and locally produced beer in Uganda. Imported, factory produced beer such as Heineken, Tusker and Guinness can be readily found in urban areas in Uganda. In addition, between 11-13 million crates of beer are produced in factories in Uganda each year, contributing to about 10% of the state revenue. Some of these beers are known as Bell, Nile Special and Club. Consumption of factory beer is largely urban and the price of manufactured beer ranges from about a half a dollar and upwards for a large bottle (3).

Traditionally and locally produced beverages

Uganda, as in many other countries, produces many traditional, locally produced and home-brewed beer and distilled alcohol beverages. It is difficult to accurately measure how much of these informally produced alcoholic beverages are produced as they are unrecorded (1). Many households in the country are involved in informal alcohol production at home, from which they get substantial cash income. Amounts of cash income generated is unknown but many cite that they are able to pay for school fees, medical treatments and other day-to-day home expenses from monies generated producing and selling alcohol from the home (4). Producers of home-brewed alcohol tend to be predominantly women. They go into alcohol production, many times, due to poverty and lack of alternative income-generating choices (3).

The majority of the population consumes informally produced local alcoholic beverages. Informally produced alcohol make up about 80% of alcohol drunk in Uganda today. Traditional, locally produced alcohol are inexpensive to manufacture, their production is labor intensive and techniques are passed down from older to younger generations of the family. These fermentation techniques tend to die out as migration to cities continues and the younger generation continues to adopt Western ways. As local and home-brewed beverages tend to be cheaper than mass or factory produced “branded” beverages, it means that it’s mostly the poorer segments of society that consumes these drinks (1). Therefore, one tends to find that factory produced beer are mainly consumed in the urban areas by people who can

afford the more expensive price, while locally produced and home-brewed alcoholic beverages predominate in the rural areas, but are also consumed in urban areas by low income earners who cannot afford factory made drinks (3). Some locally produced alcohols are often sold as “factory produced” alcoholic drinks. Generally, these drinks are first locally produced by various people, collected at some central location where they may have other diluents and adulterants added for maximum profit and then are packaged in clear, plastic bags and labeled. The vendors that distribute and sell these drinks also advertise for the sale of their beverages. These alcoholic drinks lack the same safety monitoring as real, factory produced beverages giving a false sense of safety when consuming these drinks (2).

Traditional beverages worldwide are produced by fermentation of seeds, grains, fruit, vegetables and palm trees, and Uganda is no exception. Through fermentation, the alcohol content usually does not rise very high but can get high the longer it is allowed to ferment. Many of the fermented beverages are also referred to as “porridge” in Uganda as they are made from fermented grains. These fermented beverages are further distilled to produce a beverage with high alcoholic content (1). The following are some of the most popular traditionally produced alcoholic beverages. Production and consumption of them depend on the type of agriculture grown in the area and used for producing the beverages. Breakdown of percentages of those that consume the following traditional beverages is not available.

Tonto or *mwenge bigere* is a traditional brew produced by fermenting banana juice by adding sorghum. It is mostly consumed in central and western Uganda, where growing banana is a major agricultural activity, and in urban areas all around the country. In many parts of the country, brewing *tonto* is an important source of income. It is consumed from small gourds using straws at social gatherings and bars. The alcohol content in *tonto* ranges from 6-11% v/v (1). This means that the total volume of pure alcohol (ethanol) in any volume of *tonto* ranges from 6-11%.

Ajon or *malwa* is an alcoholic beverage made from finger millet. It is widely consumed in eastern and northern Uganda and in urban areas around the country. The alcohol content of *ajon* ranges from 6-8% v/v. *Ajon* is considered to be highly nutritious and a source of vitamins, calcium and iron (1).

Omuramba is made from sorghum. It is mostly consumed by people from Kigezi, in south-western Uganda. It is normally taken in wooden cups at marriage ceremonies, parties and other social gatherings (1).

Kweete is made from equal parts maize and germinated millet in many parts of Uganda (1).

Most of the above traditional drinks can be distilled to produce a more concentrated and relatively pure beverage called *waragi*. *Waragi* can be as high as 40% v/v pure ethanol, if not higher. Molasses can also be used to produce *waragi*, as is done in sugar-cane growing areas in central Uganda (1). *Kasese* is another popular illegal extra-strength *waragi* (5). *Waragi* is available both in legally bottled form and in the illegally, home-made form often referred to as *enguli*. *Enguli* is the main form of alcohol consumed in Uganda followed by fermented home-made drinks (1).

Demographic profile of alcohol users

There are a lot of unknowns when it comes to the levels of alcohol consumption and its associated problems and benefits in Uganda. The little research available lacks good national representativeness. The current picture of alcohol consumption on Uganda is pieced together from a multiple of regional surveys and studies that have been conducted at various times in Uganda. According to the Demographic and Health Survey of 2001, one in four women and one in two men consumed alcohol at least once in the previous 30 days. And among those that drank, one in four women and one in two men got drunk at least once during the same 30 day period (6).

In 2003, Uganda was one of the countries that participated in the WHO sponsored, multinational project on Gender, Alcohol and Culture International Study (GENACIS). The objectives were to describe gender differences in consumption and drinking patterns, establish factors associated with alcohol consumption and determine the relationship between alcohol consumption and negative consequences that were measured. The cross-sectional quantitative survey was carried out in 4 districts (Kabale, Wakiso, Tororo and Lira) to represent the western, central, eastern and northern regions of Uganda. The nearly 1500 respondents were men and women aged 18 and over and the age and sex distribution of the total sample was nearly the same as the national census. Of the total number of respondents, 47% reported that they drank alcohol (with 55% of the drinkers being men and 40% being

women). Men were more likely to be long-time drinkers (as defined as drinking >10 years) than women (40.1% vs. 23.5% respectively). Among the drinkers, a third said they drank nearly daily or more often (44.7% for men and 17.6% for women), although how much they drank daily was not specified. Among the drinkers, 40.1 % of men and 20.3% of women are considered heavy drinkers (1, 3). Heavy drinking is a pattern of drinking that exceeds some standard of moderate drinking. This could be defined in term of exceeding a certain daily volume or quantity per drinking occasion, or daily drinking. In this study, heavy drinking is defined as exceeding 40g or more of pure alcohol/day for men or 20g or more of pure alcohol/day for women. 12g of pure alcohol was used as a standard measure of a drink in this study. Therefore, using this definition, heavy drinking in this study was considered as having more than 3.3 drinks/day for men and having more than 1.7 drinks/day for women. Also, among the drinkers in this study, 46% of men and 17.6% of women are considered heavy, episodic drinkers, as defined as consuming 5 or more drinks on one occasion at least once a month in the last year. This is also referred to as “binge drinking”. 14.2% of those who drank also said they have consumed 12 or more drinks in a single day in the previous 12 months (19.8% for men and 7.0% for women) Therefore, in Uganda men are likely to be long-time, frequent, heavy and binge drinkers than women. One trend of note that this study found is that among young people (i.e. <30 years of age) the percentage of new drinkers tended to slightly be more women (28%) than men (26.1%), although it doesn’t state the reasons for the difference. New drinkers in this study are defined as currently drinking and having started drinking within the last 10 years (1, 3).

Additionally, multivariate models were also built to analyze correlates of high frequency of drinking (3 or more times a week) and heavy drinking (12 or more drinks in a single day) adjusted for age, education, tribe, region, rural/urban residence, marital status, number of households in the family, feeling lonely and membership of an association and religion. The factors in multivariate analyses that were found to be significant for high frequency of drinking were being over the age of 30, male, Catholic (vs. being Muslim), being a homemaker and being social. The factors in multivariate analyses that were found to be significant for heavy drinking were being male, hailing from the northern region, and having 2-3 children. People from the north were twice as likely to be heavy drinkers as people from the central region. This might be explained by the insecurity and displacement experienced in the war-torn region of the north that might lead to high consumption of alcohol (3).

Drinking among the youth

National data of alcohol consumption among young people is even more difficult to find for Uganda. There are several surveys, anecdotal evidence, and estimates from key alcohol experts that provide a proxy indicator of the level of alcohol consumption among the youth. The WHO launched the Global School-based Student Health Survey (GSHS), an international collaborative surveillance project designed to help countries measure and assess the behavioral risk factors and protective factors in ten key areas (alcohol use being one of them) among young people aged 13-15. Uganda is one of the participating countries. In 2003, a GSHS survey was conducted among 3,215 standard 1, 2 and 3 students (ages 13-15 years). This survey showed that 12.8% of the students in this group had at least one drink containing alcohol on one or more days during the past 30 days. 15.2% of students drank so much alcohol that they were drunk one or more times in their lives. 21% of students said they have had a hang-over, felt sick, got into trouble with their family or friends, missed school, or got into fights as a result of drinking alcohol one or more times during their life (7). Another survey conducted among 5,112 adolescents between the ages of 12-19 years in 2004 in Uganda revealed that 33% of them have tried alcohol. About a third of those that drink alcohol reported being drunk in the past 12 months (8). In general, children are still restricted in the amount of alcohol they consume and when they are allowed to take it but this is difficult to monitor (3).

Rapid assessments, focus group discussions, surveys and questionnaires were used in 3 rural districts, Karabole, Tororo and Gulu, in 1994 to assess the socio-economic impact of HIV/AIDS on rural families with an emphasis on youth in Uganda. One of the factors examined to understand its contribution to high risk behavior among the youth was alcohol and drug abuse. Some of the findings include: children are being used to sell alcohol that is being brewed by women and girls. Since alcohol is readily available in the home, children may begin to drink as early as 8 years of age and learn to prepare it from 5 years of age and onward. Girls can learn to brew alcohol by the time they are 12. Some women in Karabole said that originally they gave their children alcohol to cure coughs and worms. Also, out-of-school young men tend to drink more than schoolboys although more specific statistics comparing those in school and out-of-school is currently unavailable (4).

Street children and homeless youth are particularly vulnerable to alcoholism and drug abuse. Studies conducted by Uganda Youth Development Link (UYDEL) in 1992 showed that 90% of street children and homeless youth suffer from alcoholism or drug addiction (9).

Context, attitudes, beliefs and norms associated with alcohol consumption

The social and economic class of drinkers determines where people buy and consume alcohol. In the rural areas, those with disposable income favor small bars in trading centers where they can get bottled beer and commercially distilled spirits. The majority with less income favor informal village bars, often an individual brewer's home, where less expensive fermented and distilled beverages are usually shared in plastic cups or gourds among multiple drinkers. Men are more common in public drinking places. Social gatherings provide more equal opportunities for drinking in both men and women. Local, home-brewed drinks are favored by both sexes for its role in traditional celebrations and observances such as the traditional *okwanjula* (betrothal) ceremonies, church weddings, burials and last funeral rites (5). The GENACIS study which was conducted in both rural and urban areas also showed that men tend to do their drinking away from home while women drink in less public places such as at home or in social gathering settings. Men tended to drink more with friends and workmates while women's companions when they drank alcohol were their friends and family members. Of the respondents who were current drinkers, most took drinks at parties (81%) and in bars (69%) (3).

Alcohol use in Uganda is a widely accepted social activity. It is embedded in the local culture and tradition. It is an integral part of the whole village culture and a catalyst in social interactions. Cultural functions such as weddings, births, deaths and funeral rites, and circumcision ceremonies cannot be complete without alcohol. Culture is implicated in high level of alcohol consumption in Uganda. For example, in some cultural groups, when a child is given a name, it is also given alcohol to mark the occasion. The fact that alcohol is included in customs signifies the importance of alcohol in people's lives. In many rural homes, home-brewed alcohol is something that is always around the house (3). *Waragi* is considered food and traditionally, guests thank their hosts "for the cooking" after drinking together or having "porridge" together. Drinking alcohol is seen as a duty one has to fulfill. When the gourd is passed around among a group of men, it is difficult to refuse the drink. As drinking is a catalyst in most social interactions and an integral part of culture, men who

don't drink are often less respected. Male youths in Kabarole said that men who do not drink are fools and identified drinking with virility (4).

Because alcohol permeates important cultural activities, alcohol is widely consumed by all people, male and female alike, young and old. Only certain groups such as Muslims and born again Christians are not allowed to drink and tend not to drink. Women and children are culturally not allowed to drink in public with few exceptions (3, 10). A qualitative study involving participatory learning action (PLA) activities and focus group discussions conducted in Masaka district to investigate perceptions about the different relationship between alcohol consumption and sexual risk-taking for men and women revealed a great deal about gender roles and meaning behind drinking for each. For men, drinking is recreation. It offers opportunities to relax, meet friends, share sorrows or catch up on the latest news. Drinking alone at home is not seen so much as unacceptable as illogical. Going out for drinks for men presupposes independence, and emphasizes freedom from the household and its duties. Opportunities for leisure at bars is seen as a chance to compete for and win sexually available women, which both men and women identify as natural and expected for men. For women, drinking threatens the norms of femininity embodied in the conservative code of behavior for women's dignity. To attend bars, first of all, requires access to disposable income in women, freedom from household duties, and mobility outside the home; all of which take women away from spousal and maternal roles. While many insist that women are free to drink as men, socially acceptable drinking for women is limited to the home or social events and ceremonies where women go by invitation. While men get away with sexual exploitation outside the marriage when under the influence, it would be tantamount to prostitution if women did the same. The loss of dignity for women is more socially ruinous than it is for men (5). It's ok for a man to stagger across the street but for a woman, it is unacceptable. Not only would people rebuke her but the woman would be vulnerable to physical and /or sexual assault (9).

Despite the strict gender norms that govern what is acceptable for women to do in regards to alcohol consumption, it is women who brew and sell alcohol. Brewing and selling alcohol is an accepted economic activity in the general population. Poverty and lack of alternative income-generating activities for women has been cited as the main reasons for alcohol production. Incomes from selling locally brewed alcohol are often used for school fees, other daily home expenses, and even tithing in church. Sale of alcohol has given some rural

women financial independence, as women get to keep the money they earn from brewing and distilling (4).

II. Alcohol Policy

Uganda has no clear regulatory policy on alcohol. Commercial sale of traditionally produced spirits is supposedly regulated by the Liquor License Act of 1964, which forbids the sale and consumption of crude waragi. Yet, this law is outdated and rarely enforced. There are no time and place restrictions in Uganda for hours of sale of alcohol, days of sale, and places of sale and density of outlets. There are no regulation of alcohol producers and their advertisement or sponsorship practices. Breweries sponsor a lot of sporting events, promotional events, and advertise on billboards and mass media which indiscriminately reach minors and adults alike. The legal age limit for purchasing alcohol is 18, yet this law is rarely enforced. Although there is a legal blood alcohol limit for driving, the level of enforcement is very limited due to lack of equipment that measures alcohol content in breath or blood (11).

A clear alcohol policy could begin to have an impact on the alcohol problem in Uganda. It will define and strengthen existing laws that are weak regarding liquor licensing, alcohol production and abuse. It will call for sensitization of opinion leaders and community about liquor regulations so as to involve them in the control of non-compliers. The policy will outline the national action plan regarding alcohol and drug abuse, which is to include increased awareness of alcohol related problems. The policy will call for a well packaged, pro-active information, education and communication (IEC) activities to be carried out to inform the public of the problem of alcohol abuse. It will call for immediate restrictions on alcohol advertisements and other promotional programming in the mass media, business premises, sporting events, billboards that expose the youth to the advisement. It will also call for and hopefully fund more treatment options for those with alcohol dependency problems. Lastly, a policy in place will mean that budget and funds will be dedicated to deal with alcohol issues which will include research, prevention, education and treatment activities in addition to dealing with laws and liquor licensing that will regulate production, sale, and places of sale and enforcement of such laws including punishing those that break the laws. The Ministry of Health in collaboration with relevant stakeholders have developed a draft comprehensive national policy that will be presented to the Director General of Health

Services of the MOH in March 2007 and will hopefully make its way to the top management of the MOH and eventually will be submitted to the cabinet (2, 3, 12, 13).

III. Alcohol Abuse

Knowledge about alcohol and its harmful effects

For many people in Uganda, there is a low perception of the risks of alcohol consumption. While many may be aware of the harmful effects of alcohol, they believe that those who experience the problems are only the alcoholics. Also, the limits/level of what is safe and unsafe is not known by most people (2). For many people, the facts about alcoholism are not clear. What is alcoholism, exactly? How does it differ from alcohol abuse?

Alcohol abuse is a pattern of drinking that result in harm to one's health, interpersonal relationships or ability to work. Certain manifestations of alcohol abuse include failure to fulfill responsibilities at work, school or home; drinking in dangerous situations such as while driving; and continued drinking despite problems that are caused or worsened by drinking. Alcohol abuse can lead to alcohol dependence. Alcoholism or alcohol dependence or is a diagnosable disease characterized by several factors including 1) a strong craving for alcohol, 2) loss of control and continued use despite harm or personal injury, the inability to limit drinking, 3) physical illness and withdrawal symptoms when drinking stops such as nausea, sweating, shakiness, and anxiety, and 4) the need to increase the amount drunk in order to feel the effects of alcohol. The reasons that alcoholism should be thought of as a disease are because it's biological, it's progressive, it affects bodily organs as well as brain chemistry. There are specific diseases associated with alcoholism that are only caused by alcoholism (15). Among the drinkers in Uganda, about 10% are estimated to be alcoholics while 90% are social drinkers who may or may not abuse alcohol but are not to the level of being considered alcoholics as defined above (2, 16). Many people in Uganda do not see or accept alcohol dependence as a disease. They believe that the individual is simply weak and cannot or doesn't want to stop drinking. Therefore it is generally believed that alcoholism cannot be treated (14).

Factors contributing to alcohol abuse

Research findings have attributed high alcohol consumption to political instability, poverty, unemployment and culture. Uganda's protracted war and political turmoil caused many to become demoralized, lose interest in the future and have resorted to drinking (4). Higher

alcoholism rates have been found in the war-torn regions of northern and eastern than in other regions in Uganda (9). Poverty and unemployment have also been implicated to possibly contributing to high alcohol consumption. While others say that it is alcoholism that leads to poverty and unemployment (4). Other reasons why people may abuse alcohol include to get rid of boredom and to forget one's problems (2, 17). The availability of all types of alcohol at prices affordable to the poor and the well-to-do alike is evident in the types of people that experience alcohol related problems. According to a counselor that treats alcoholism at a treatment center in Kampala (Serenity Center), it is often thought that alcoholism mainly affects those of lower economic status. Yet at Serenity Center, they treat mainly patients who are wealthy and educated; probably has as much to do with the fact that treatment costs are prohibitive for the majority in Uganda (50,000USH/day or about \$27USD/day) as it is evidence that alcoholism affects those in the middle and higher economic status also (16). There is also a culture that promotes drinking in Uganda since alcohol is present at every traditional and cultural social gathering (as discussed in previous sections).

There is also increasing evidence that alcoholism is not simply a choice. Alcoholism is a progressive neurological disease that is strongly influenced by genetic vulnerability. Although no studies have been conducted in Uganda, various studies in Europe and North America show that children of alcoholics may be predisposed to develop alcohol abuse problems. In a study conducted in Denmark, scientists found that sons of alcoholics were about 4 times more likely to be alcoholics than sons of non-alcoholics, after controlling for the environment in which the children were raised; i.e. this same trend of increased risk was seen even when children of alcoholic parents were adopted by non-alcoholic parents and raised in a non-drinking environment (18).

In addition to genetic predisposition, environment is a strong factor in determining who could potentially abuse alcohol. Being raised in an environment where there is alcohol, peer pressure during adolescent years or being around alcohol as an adult could explain the high levels of alcohol consumption in Uganda. In Uganda, children are exposed to alcohol at an early age. In the rural areas, home-brewed alcohol or "porridge" can be found in many homes. Also, children are exposed to alcohol through production in the home. Growing up in an environment where alcohol is consumed, sold or both could contribute to high alcohol consumption or development of alcohol abuse. Other factors such as co-morbidity with depression, anxiety, stress and other mental conditions have been associated with alcohol

abuse. Abuse of other substances and drugs such as cigarettes and marijuana have also been implicated in contributing to alcohol abuse. Finally, the lack of national policy and enforceable laws to regulate producers and their advertising could lead to increased consumption and alcohol abuse (2).

IV. Consequences of alcohol abuse

Alcohol use is related to a wide range of physical, mental and social harms. It is estimated that alcohol causes the suffering of various kinds (physical, financial, family problems, emotional, etc...) to at least 70% of the population of Uganda, either directly or indirectly (3).

Health

Alcohol can affect nearly every organ in the body. A number of diseases are wholly attributable to alcohol. These range from alcohol-dependence syndrome to alcoholic cardiomyopathy, alcoholic gastritis, alcoholic liver cirrhosis, and alcohol poisoning. Alcohol has a contributory role to the following diseases and harmful health effects: cancer (of the mouth, pharynx, esophagus, liver, and breast), cardiovascular diseases and strokes, liver cirrhosis, and birth defects and fetal alcohol syndrome related to drinking during pregnancy. Other consequences include increased risk of injury from road traffic accidents (vehicles, bicycles and pedestrians), falls, fires, injuries related to sports and recreational activities, self-inflicted injuries and injuries from interpersonal violence (1). One newspaper article reported that in 2003-2004, a total of 192 road traffic accidents were attributed to driving under the influence, although it didn't state out of how many total accidents (19). Death and disability from alcohol-related traffic accidents are still not quantified in Uganda.

A number of studies have been conducted in Uganda to understand the consequences of alcohol consumption and risk of HIV infection. A study conducted in Rakai district between 1994 -2002 followed a population-based cohort of approximately 6800 men and 8000 women at intervals of roughly 12 months when they were tested for HIV to determine if consumption of alcohol before sex was associated with an increased risk of HIV acquisition and sexual risk behaviors. The study revealed that alcohol consumption before sex was shown to increase the risk of acquiring HIV infection by 67% for men and 40% for women. If both partners used alcohol before sex, then the risk is 58% for men and 81% for women. One explanation for the increased risk of HIV acquisition in both sexes is that alcohol may affect HIV risk by behavioral disinhibition as also assessed in this study. Associations were found between

alcohol use before sex and HIV risk behaviors. Individuals consuming alcohol before sex were 38% more likely to report inconsistent condom use in the past 6 months and 42% more likely to report a greater number of sexual partners in the past year than those who didn't consume alcohol before sex (20).

Another study (cross-sectional survey) conducted in Masaka district in 1997 found that people who drank alcohol were twice as likely to be HIV positive as abstainers (10% vs. 5% or an OR=2.0, 95% CI: 1.5-2.8). This association remained after adjusting for potential confounders such as age, gender, marital status, ever use of condom, reported number of past sexual partners, religion and sale of alcohol in the household (OR=1.8, 95% CI: 1.2-2.7). HIV prevalence among those living in households where alcohol was sold was 15% compared to 8% for those who didn't have alcohol sold from their home, although this association was only found in a univariate analysis (OR=2.0, 95% CI: 1.1-3.6). Therefore, people who drink or have alcohol sold from their home were twice as likely to be HIV-infected than non-drinkers or people who don't have alcohol sold from their home (10).

Immediate health effects from alcohol consumption have also been seen with traditional forms of alcohol since they are poorly monitored for quality and strength. There are cases of harmful or fatal consequences related to impurities and adulterants that are often added to traditionally brewed and distilled alcohol. One example was the case in Kenya in November in 2000 when 140 reportedly died and many people went blind and hundreds were hospitalized after consuming illegally brewed and poisonous liquor called *kumi kumi*. The drink contained methanol and other dangerous additives such as car battery acid and formalin. Lethal additives are often added to speed drinkers to their desired high (1). On March 1, 2007, the New Vision newspaper in Kampala reported that 40 people had died from consuming "factory produced" *waragi*. These are illegally distilled *waragi* from various sources that are often sold in plastic bags.

Social

Alcohol consumption is linked to many harmful consequences for the individual drinker, the drinker's immediate environment and society as a whole in Uganda. Such consequences include family problems such as child abuse, time away from home as drinking often happens outside the home, broken homes, and marital problems or divorce. Alcohol dependents are more frequently divorced or separated than others. Spouses and children of alcohol

dependents persons have relatively high rates of physical, emotional and psychosomatic illnesses (3). In the GENACIS study, respondents were given a list of ten different social problems associated with drinking including poor relationships with spouse, family members and other people, poor work/studies, fighting, law-breaking, financial difficulties and pressure from people to cut down. Among the drinkers, 12.1% said they have experienced at least 1 of the listed social problem, while 10.1% said they had experienced 2 social problems and 43.7% said they had experienced 3 or more social problems associated with alcohol consumption. Therefore, a total of 66% of the drinkers reported having experienced at least one social consequence associated with alcohol consumption in their lives in the last 12 months. Women were less likely to report any of the listed social consequences of alcohol consumption than men (56% vs. 74% respectively) (3, 14).

Increased interpersonal violence when under the influence of alcohol has been documented in many studies. In a study conducted in Rakai district in between 2000-2001, 52% of women who reported domestic violence reported that their partners had consumed alcohol before the incident. Women whose partners frequently or always consumed alcohol before sex faced risks of domestic violence almost 5 times higher than those whose partners never drank before sex (21). In a separate study conducted in Rakai district, 4279 reproductive-aged women were surveyed in 1998-99 to understand the prevalence and associated risk factors to coercive sex. Results showed that alcohol consumption before sex by male partner was strongly and positively related to risk of coercive sex (22). Similar studies conducted in Mbale district in 2003 revealed an association between alcohol consumption and intimate partner violence. 5% of 457 women surveyed attributed intimate partner violence to alcohol. Yet in focus group discussions, alcohol consumption, mainly by men but also by women, was stated as an important reason for intimate partner violence (23). Quarreling in public, law-breaking, work-place related problems and pressure from others to cut down on alcohol consumption have also been cited as negative outcomes of alcohol abuse (3)

Economic

Despite the fact that alcohol production is an important economic activity for many in Uganda, there are many economic consequences related to alcohol abuse. Lower productivity and absenteeism from work are common consequences. Personal financial difficulties were the most common reported consequences in the GENACIS study.

Unemployment and poverty have also been cited as both consequences and potential causes of alcoholism (3).

V. Responsible drinking behavior

Responsible drinking behavior by definition implies that one does not become “less” responsible because one has been drinking. If drinking any amount of alcohol causes one to act in a manner contrary to one’s values, creates distress or risk for others, it is not responsible drinking. It’s difficult to define by “how much” or “how often” drinking is considered responsible drinking as each individual person has different levels of tolerance for alcohol before they begin to act “irresponsibly” (24). Dr. Basangwa defines responsible drinking as drinking where a person does not at any stage experience physical, social or psychological harm or problems. The person is in control at all times when drinking. They do not suffer the consequences listed above (2). If they consume alcohol, they consume it moderately. According to the CDC in the US, there is no one definition of moderate drinking, but generally the term is used to describe low-risk or responsible drinking. Although it is not defined in Uganda, in the US, drinking in moderation is defined as having no more than 1 drink per day for women and no more than 2 drinks per day for men. This definition is referring to the amount consumed on any single day and is not intended as an average over several days (15).

Barriers to adopting a responsible drinking behavior

There are many barriers and facilitators to adopting a more responsible drinking behavior. Many of the factors listed above as contributing to alcohol abuse such as war and instability, having alcohol around or being around alcohol are also barriers to adopting a responsible drinking behavior. Another important barrier is denial. Denial, in fact, may be an important signal for alcoholism. Family and friends also do not help the situation by being in denial that their loved ones have a problem with alcohol. An example is when spouses and family members lie to cover up the problem of the alcoholic, e.g., lying to the employer of the alcoholic for the alcoholic’s absenteeism from work (16). A culture that promotes social drinking at every occasion, readily available alcohol, economic stress, lack of an alcohol policy, and lack of comprehensive prevention education are all barriers to adopting a more responsible drinking behavior.

Facilitators to adopting a responsible drinking behavior

There are many factors within the individual drinker that could facilitate a responsible drinking behavior. Persons who are able to manage their stress, their resources and their time properly exhibit qualities that leave little time for abuse of alcohol. A person who is able to communicate openly with people in their lives (such as their spouse) or seeks counseling for different aspects of his or her life is less likely to turn to alcohol. It is also important to be able to recognize the signs of harmful drinking (16). Many are unaware of the harmful effects of alcohol abuse. If one is able to recognize the signs and take action to prevent a problem or for those with a drinking problem already, if they are willing to accept that they have problem, adopting responsible drinking behavior is much easier than for those who are unaware of danger signs or are in denial of their problem with alcohol abuse (2, 17).

Interacting with non-drinkers is an important facilitator to responsible drinking behavior. It is important not to be around alcohol or to not have alcohol around the house if one is trying to adopt responsible drinking behavior. For those with alcohol dependency problems, a supportive environment, family members willing to accept that there is a problem and encourage treatment seeking behavior are also good facilitators for the person to adopting a more responsible drinking behavior (16). In Uganda, more alcohol abuse prevention IEC in the communities, alcohol prevention programs in the school systems and an alcohol policy with enforceable laws is absolutely necessary and could facilitate the society as a whole being able to adopt a more responsible drinking behavior (12).

Programs that promote responsible drinking behavior

There are few programs currently available in Uganda that promote responsible drinking behavior. Alcohol prevention messages may be embedded in other health prevention / promotion programs such as HIV prevention messages as alcohol consumption has been shown to increase risky behavior that could lead to HIV infection. But, specific programs that focus on alcohol abuse prevention and education are very few and mainly in urban areas such as Kampala. The alcohol industry has attempted some self-regulation by putting small messages on labels and advertisement that say that you must be 18 years of age to purchase and consume alcohol. These messages are clearly overshadowed by the number of other messages and advertisements that the alcohol industry puts out to promote their alcoholic beverages that reach all minors and adults alike, as advertisements are currently not regulated. The Ministry of Health has done some public education through the mass media.

They have also conducted mass nationwide training of health workers so they are able to identify people with alcohol dependency problems. The health care force, like the general population, also does not accept that alcoholism is a disease and don't believe it is treatable. They often feel overwhelmed when dealing with alcoholics in the health care setting as they are difficult patients to handle. These trainings were conducted so that health care workers would be able to recognize those that need treatment (for referral to government Butabika Referral Hospital) versus those that simply need to be educated about the dangers of alcohol abuse. The MOH continues to work with the Ministry of Education to develop education materials for schools and with Ministry of Justice regarding the alcohol policy. The MOH has also trained media people on alcohol and drug abuse education so as to report accurately and to promote responsible drinking behavior. The majority (albeit very minimal compared to the needs) of work in promotion of responsible drinking behavior has been conducted by the few NGOs that work in treatment of alcoholism. National Care Center (NACARE), the Serenity Center, Uganda Youth Development Link (UYDEL) and SOBER Uganda are the few NGOs that have conducted outreach to the communities and schools and some peer-to-peer education in addition to providing treatment services (2).

Approaches to promoting responsible drinking among the youth

The youth are a risk group as far as alcohol use and abuse. The age of starting to drink alcohol is getting lower every year. Both youth in school and particularly those out of school (homeless, street children, children who live in slums, etc...) consume too much alcohol and abuse other drugs (25). Recommended approaches to promoting responsible drinking behavior among the youth are peer-to-peer education. Peer-to-peer prevention approach should occasionally be reinforced by public film and drama shows (2, 25). One recommended approach for the youth is to begin with discussions to understand their opinions, their beliefs and what they consider to be benefits vs. negative consequences of alcohol abuse. They should be questioned as to why they drink and made to understand that every drinker is a potential alcoholic. Many youth believe that people who develop alcohol-related problems are those who can't control what they drink. They need to be convinced that all alcoholics at one point believed as they do now and eventually became alcoholics without understanding how they came down that path. Messages to the youth should first of all stress that anyone under 18 should not consume any alcohol. Those ≥ 18 year of age who chose to drink should do so in a manner that is not harmful. When drinking alcohol has actually caused physical and psychological harm and clear evidence exists that alcohol is

responsible for such harm, it is considered harmful drinking. Being out of control, frequent intoxication, failure to fulfill schoolwork, work or other personal obligations are clear signs that someone is drinking in a manner that is harmful to them and others. Youth (and adults alike) should be made aware of the risk factors and warning signs that could make them more prone to developing a serious drinking problem. These include (as discussed in above sections also) genetic predisposition, when alcohol takes priority over school, work or other duties, disobedience or being unruly towards authority, stealing money to buy alcohol or selling belongings to buy alcohol, deterioration of academic performance, social pressures and getting involved in the wrong crowd. Messages that promote responsible drinking should include these among others in order to convince the youth to not drink or to drink responsibly if old enough (2).

Treatment of alcoholism in Uganda

Treatment options for alcoholics in Uganda are very few. The National Care Center and the Serenity Center (both in Kampala) provide residential treatment care for 90 days. They are both private and cost anywhere from \$20-30/day. Residential treatment is an important part of recovery. Both centers' residential treatment program is based on the 12 step Alcoholics Anonymous program for recovery from alcohol dependency. They provide assessment, detoxification, one-on-one counseling and group therapy, cognitive therapy, aftercare program and family counseling. Whether a person succeeds as an outpatient depends in part on whether he or she has an adequate social support structure. The government also has one facility where the public can be treated for alcoholism. The Butabika Mental Referral Hospital's Alcohol and Drug Unit in Luzira is the only public place available for treatment. Treatment is free but there is not enough to capacity to treat all those who need it. In addition, there are about 4 Alcoholics Anonymous (A.A.) fellowships in Kampala where recovering alcoholics can go to get support from other recovering alcoholics (2, 16, 17).

VI. Discussion

Consumption of alcohol in Uganda is high and widespread. In summary, men tend to drink more alcohol, more frequently and are more likely to do binge drinking in Uganda. Among those under the age of 30, patterns of drinking may be changing as more women are becoming equally new drinkers as men. The youth are also drinking more and more and the age of starting to drink is getting lower every year. For men, drinking represents a social activity that demonstrates their independence and freedom from the household and its

responsibilities. Consuming alcohol is seen to heighten masculinity, whereby men become aroused, aggressing and ‘in need’ of sex. These gender norms give men the relative freedom of movement and license to initiate concurrent sexual partnerships. For women, however, drinking in public is less socially acceptable as it conflicts with the conservative rural ideology of female dignity that emphasizes fidelity and devotion to domestic duties. These gender norms restrict ‘respectable’ women to the confines of home and while marking other women who drink as subjects for sexual speculation and even violence. Relationship between drinking and high risk of sexual behaviors in rural Uganda is closely linked to the social construction of gender identities and sexuality. Drinking is not only central to the social life but is an important source of cash for sustenance and financial independence for many women.

The proportion of people experiencing negative health, social and economic consequences of alcohol consumption is too high to be ignored. Alcohol use with sex is common in Uganda and alcohol use before sex is an important risk factor for HIV acquisition both men and women. There is enough evidence to support the conclusion that alcohol may play a direct precipitating role in domestic violence. Interventions aimed at reducing alcohol consumption are likely to have important corollary benefits in terms of reducing levels of violence between intimate partners. Since risky behavior in drinking environment reflects broader social norms, it will require cooperation of both drinkers and non-drinkers alike to change.

Gaps in alcohol research, prevention and treatment

The lack of national policy coupled with weak and poorly enforced laws provide the impetus for increasing alcohol availability, accessibility and potential abuse. The absence of comprehensive, reliable data and information that gives the national picture of the alcohol abuse in Uganda makes it difficult to convince the politicians and public alike of the scale and magnitude of the problem, and even more difficult to respond with adequate demand reduction measures. Prevention efforts, programs that promote responsible drinking behavior, and treatment options are few, grossly under funded, and mostly in the urban areas. If the problems of alcoholism and its devastating effects are to be surmounted, concerted efforts are needed from the alcohol industry, the government, NGO sector, communities and community leaders, and families and individuals (drinkers and non-drinkers alike).

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