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# Prevalence of Alcohol Consumption and Alcohol Use Disorder among Adolescents in Ibanda District, South Western Uganda: A Cross-Sectional Study

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## Abstract

**Background:** Alcohol use disorder ranks as the most prevalent mental disorder globally. However, studies on alcohol use disorder among adolescents in rural areas in sub-Saharan Africa are scarce. Despite having public health consequences, alcohol use disorder remains one of the most undertreated mental disorders. This study determined the prevalence of alcohol use and alcohol use disorder and its associated demographics in an adolescent population from Southwestern Uganda. Understanding the prevalence of alcohol use and alcohol use disorder among adolescents is crucial in investing in early intervention strategies. **Methods:** A population-based cross-sectional study was conducted between October and December 2019 among a random sample of 308 adolescents residing in Ibanda District. The area of study was selected using-multi stage cluster sampling. Alcohol use disorder was defined to include possible hazardous use, harmful use, and dependent use of alcohol and was screened using the Alcohol use disorder Identification Test with a cut off score of 7 and above. We summarised data using descriptive statistics and used logistic regression to explore the risk factors for alcohol use disorder. **Results:** The prevalence of alcohol use disorder was 39.9.1% (95% CI: 29.35, 41.17) and was more among males as compared to females ($p$-value = 0.001). Alcohol use disorder was associated with male gender (OR = 0.38), secondary education (OR = 6.16), and living with others (OR = 17.78). Among those who used alcohol, 29.2% (26) were hazardous drinkers, 56.2% (50) were harmful drinkers, and 33.7% (30) were alcohol dependent based on

AUDIT item analysis. **Conclusion:** Gender differences, level of education, and family structure are issues that must be considered in adopting interventions aimed at reducing the burden of alcohol use disorder among adolescents and preventing further spread into adulthood.

## Keywords

Cross-Sectional Study, Prevalence, Alcohol Consumption, Alcohol Use Disorder, Adolescents

## 1. Introduction

Alcohol consumption by adolescents remains a significant public health concern (Hamidullah, Thorpe, Frie, Mccurdy, & Khokhar, 2020) and the prevalence of alcohol use disorder or alcohol addiction is increasing globally (Carvalho, Heilig, Perez, Probst, & Rehm, 2019; Rehm & Shield, 2019). Excessive use of alcohol is associated with decreased quality of life and increased risk of mental health challenges such as alcohol use disorder. As in DSM-V, when a person is reported to have compulsive heavy alcohol use and loss of control over alcohol intake, the term alcohol use disorder is used (Carvalho et al., 2019). Alcohol use disorder (AUD) integrates hazardous, harmful use as well as dependence (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001). Hazardous drinking is a pattern of alcohol consumption that increases the risk of harmful consequences to the user or to others. Harmful use refers to alcohol consumption resulting in consequences to physical and mental health (WHO, 2019). And alcohol dependence is a cluster of behavioral, cognitive, and physiological phenomena that may develop after repeated alcohol use. Typically, these phenomena include a strong desire to consume alcohol, impaired control over its use, persistent drinking despite harmful consequences, a higher priority given to drinking than to other activities and obligations, increased alcohol tolerance, and a physical withdrawal reaction when alcohol use is discontinued (ICD-11).

According to the WHO, adolescence is a period of transition between childhood and adulthood, usually from 10 to 19 years. Some early researchers have categorized adolescents between 10 and 14 years as early adolescence and those between 15 and 19 years as late adolescence (Aboagye et al., 2022). Alcohol is the most common substance used among adolescents (Abbo, Akello, Muhwezi, Akello, & Ovuga, 2016; Johnston et al., 2020). This is mainly due to the fact that adolescence as a stage of development is fraught with experimentations of several risky behaviours (Kaess et al., 2013; Kugbey, Ayanore, Amu, Asante, & Adam, 2018). Another concern is the growing tendency of young people to start drinking alcohol at an early age (Kabwama, Matovu, Ssenkusu, Ssekamatte, & Wanyenze, 2021; Marshall, 2014). To note, more than 50% of substance use initiation cases occur during adolescence (Blanco, Floorez-Salamanca, Secades-Villa, Wang, & Hasin, 2018; Gebeyehu & Biresaw, 2021; Gray & Squeglia, 2017;

Johnston et al., 2020; Ssebunnya et al., 2020). Moreover, an earlier age of onset of substance use is significantly associated with the risk of developing a substance use disorder later in life (Dawson, Goldstein, Chou, Ruan, & Grant, 2008; Hamidullah et al., 2020; Marshall, 2014).

Literature indicates that Uganda had one of the highest levels of alcohol consumption in Africa, with an annual per capita rate of alcohol consumption of 23.7 litres (WHO, 2014). Alcohol is readily available as it is used as a source of income and for cultural celebrations (Ssebunnya et al., 2020). Relatedly, with increased alcohol advertisement on television/radio, bill boards and the internet, young people are becoming more exposed to messages that normalise the use of alcohol and focus solely on positive effects (Swahn, Palmier, & Kasirye, 2013). The lack of a clear national alcohol policy coupled with weak and poorly enforced laws provides fertile ground for increasing the availability and accessibility of alcohol in Uganda (Ssebunnya et al., 2020). As a result both the young and old are consumers. Abbo found out that 19.3 percent of school-going children (12 to 24 years) consumed alcohol (Abbo et al., 2016). In a related study among adolescents attending the Makerere/Mulago Columbia Adolescent Health Clinic in Mulago, 15.2% of the total adolescent population were taking alcohol (Henry et al., 2019). These high rates of adolescent drinking suggest an early initiation of alcohol use, although more recent data are lacking (Skylstad et al., 2021). It is therefore not surprising to find that 5.8% of the Ugandan population over the age of 15 is affected by alcohol use disorder (Skylstad et al., 2021). Yet alcohol use disorder among adolescents is underreported.

Despite studies showing a prevalence of substance use among adolescents and the adult population in Uganda, no particular study has been carried out to investigate the prevalence of alcohol use disorder among adolescents in the rural part of the country. Assessment of the prevalence of alcohol consumption and alcohol use disorder among adolescents is important in devising interventions to reduce alcohol use and to prevent both the immediate and long-term consequences of alcohol use.

*Study design*

This study was cross sectional and was conducted between September and December 2019 among adolescents aged 10 to 19 years.

*Study setting*

The study was carried out in Ibanda District in the Southwestern part of Uganda. The district is typically representative of the majority rural districts in Uganda in light of its socioeconomic and health indicators. Two villages participated in the study. Nyakatookye village located in Kagongo Division in the northern outskirts of Ibanda Municipality and Keihangara village located in Keihangara Parish, in Keihangara Sub County. A parish is the second administrative division in a district. The main economic activity in the area is agriculture. Residents are involved in crop farming including the growing of crops for subsistence use and for sale. Bananas are a major crop and it is grown for home consumption and for brewing local brew and distilling local gin.

*Study population*

The study was conducted among adolescents aged 10 - 19 years because the onset of substance use and mental disturbances is known to occur for many during adolescence (Ssebunnya et al., 2020; Storr, Pacek, & Martins, 2012) and still it is an age of formation. Adolescents were invited to participate in the study if they were aged between 10 and 19 years-old (as per WHO definition), had no history of psychosis at the time of the study, and had a sufficient reading level to complete the questionnaire. In line with previous studies of this kind, no further inclusion criteria were applied (Chappel, 2011).

*Sampling*

Using multi stage cluster sampling, two study areas were selected. The primary sampling units were Sub counties, the secondary sampling units were Parishes (a parish is a second administrative division above the village), and the tertiary sampling units were villages. At all stages, simple random sampling was used. Once the two villages were obtained, the research assistants moved to the middle of the village with the help of the local leader and spun a pen to obtain the direction by random. All families that had an adolescent were consecutively recruited to participate in the study. Recruitment continued until the required number of adolescents was obtained. The sample size was estimated using the Cochrane sample size proportion based on the available prevalence of 22.2% (Reda, Moges, Wondmagegn, & Biadgilign, 2012). The sample was arrived at using the formula, $n = z^2 * p(1-p)/d^2$ (Kelsey, 1996) and calculated based on 95% a confidence interval, $p = 22.2\%$ prevalence rate of alcohol use, $d = 0.5\%$ margin of error of estimation, and z taken as 1.96. Subsequently, the initial sample was increased by 10% to compensate for possible non response giving a minimum sample size of 292. The final sample size was comprised of 308 adolescents.

*Study instruments*

We used the Alcohol use disorder Identification Test (AUDIT) to assess for alcohol consumption and Alcohol Use Disorder. The AUDIT was developed by the World Health Organization, to detect alcohol-related problems in the last 12 months before the survey (Babor et al., 2001; Saunders, Degenhardt, Reed, & Poznyak, 2019). Each response on the AUDIT is coded on a 4-point Likert-type scale ranging from 0 to 4 points, with a maximum score of 40 points (Babor et al., 2001) (ICD-11.) Several studies have demonstrated the level of AUDIT validity and reliability (Adewuya, 2005; Babor et al., 2001; Reinert & Allen, 2002; Saunders, Aasland, Babor, de la Fuente, & Grant, 1993). In Brazil, the AUDIT presented good levels of sensitivity (87.8%) and specificity (81%) for the detection of alcohol use disorder. It was also validated among university students in Kenya, Nigeria, and Zambia (Adewuya, 2006; Chishinga et al., 2011; Saunders et al., 2019). These countries have contextual and cultural conditions similar to those in Uganda such as similar cultural beliefs, consumption patterns, political conditions, and socio-economic conditions. Its performance has been positively evaluated in primary health care services and population based studies on prevalence, and its item coverage, focus on the recent past, brevity, reliability and

cross-cultural applicability make it relevant for developing countries (Reinert & Allen, 2002; Saunders et al., 2019) and Uganda in particular.

For this study alcohol use disorder was defined by an AUDIT score above 7 and was distributed as follows; scores of 7 to 15 indicate hazardous use; scores of 16 to 19 denote harmful use, and scores of 20 to 40 indicate possible dependent use. The first item in the questionnaire (How often do you have a drink containing alcohol in the past year?) establishes the prevalence and frequency of alcohol use (Martins-Oliveira, Jorge, Ferreira, Vale, & Zarzar, 2016). The predictor variables analysed were; age, sex, education level, income level, current living arrangements, family position, and number of children. These variables were captured in the biodata section of the Family Adaptability and Cohesion Evaluation Scale (FACES IV) (Olson, 2010).

*Ethical issues*

The present study was conducted in accordance with the Declaration of Helsinki 2013 (WMA, 2013). The study was approved by the Mbarara University of Science and Technology research Ethics Committee (MUREC 09/01-19) and was registered with Uganda National Council for Science and Technology (No: SS 4632).

Research assistants explained the purpose, risks and benefits of the study to parents/caregivers in a language they understood (English or Runyankore), and once they accepted to participate in the study, they were requested to sign a written informed consent. Assent was obtained from the adolescents who were under the care of their parents/caregivers. All participants were given a chance to ask questions for clarification before consenting. They received 5000 Ugandan shillings (approximately 1.5 U.S. dollars) at the time of the study to cater for their time during the interview.

Prior to data collection, research assistants received 7 days rigorous training in both theory and practical aspects of data collection. Issues covered included ensuring confidentiality and creating a free environment in which the respondents would provide accurate data, and handling emotions of participants as they arose.

*Data Collection procedures*

Authorization for this study was obtained from the authorities in Ibanda Municipality and Keihangara Subcounty. All respondents gave consent to participate. Participation required adolescent assent and parental consent, which was acquired through forms given to parents. A total of 308 adolescents completed questionnaires, giving response rate of 86%. The survey was anonymous and voluntary; adolescents were informed that they did not have to answer any questions, if they did not want to. Only researchers, including a psychiatrist and research assistants were available as the respondents completed the survey which was in English and a translation in Runyankore, the local language. Answer sheets were labelled with unique study identification (ID) numbers instead of adolescent names to ensure the confidentiality of their responses. Respondents were asked to report whether they took an alcoholic drink in the past 12 months.

Those who said "yes" were referred to the psychiatrist to be screened for alcohol use disorder using the AUDIT and ICD-11. Alcohol included; factory made beer, locally made brew, and locally distilled beverages including "waragi" which is a strong locally distilled spirit, as these were the types of alcohol available in and around the study area.

We adopted WHO definition of a one standard alcoholic drink as any alcohol drink that contains 10 g of pure alcohol (Stockwell et al., 2000). The following measures were taken as equivalent to one standard alcoholic drink: (Mafa et al., 2019) a 285-ml bottle or can of beer, (2) a 120-ml glass of wine (factory distilled or locally brewed), and a 30-ml glass/tot of a spirit or gin (factory distilled or locally brewed) (Ezzati, Lopez, Rodgers, & Murray, 2004).

*Statistical analyses*

Data were analysed using Stata version 13. Results were expressed as frequencies (%), means and standard deviation. Frequency tables were generated, and relevant cross tabulations were made. The chi-square test was used to compare categorical variables, and the correlation between the quantitative variables was carried out with the aid of the coefficient r of Pearson.

A bivariate analysis was carried out to test the association between socio-demographic variables and alcohol use. The socio-demographics included in the model were; sex, age, education level, level of income, current living arrangements, birth position, and number of children in the family. The multivariate logistic regression analysis was done to calculate variables independently associated with hazardous, harmful and probable dependent alcohol use and their significance was estimated in terms of adjusted Odds Ratios (OR) and its 95% confidence intervals (95% CIs). P values of 0.05 or less were considered as significant. The odds ratios and their confidence intervals (CI) were calculated and used as indicators of the association between alcohol use disorder and the independent variables. The variables included in the multivariate regression analysis were those that were significantly related with a positive screen of AUDIT (score ≥ 7) during the univariate analysis. Sex, education level, and current living arrangements were thus included in the model. Data for living arrangements was segregated into two; living with parents or living with others (step parent, peers or alone).

## 2. Results

A total of 308 adolescents aged between 10 to 19 years were recruited. Of these, 53.6% (n = 165) were males and 46.4% (n = 143) were females. The mean age was 15.4 years (SD = 2.2). Most of the respondents were in the 15 - 19 year age group (182, 59.1%) while in the 10-14 year age group were (126, 40.9%). Majority of the respondents (266, 86.4%) were living with at least one of the parents but 28 (10.6%) were living with others (step parent, other relatives, or peers) and only 32 (10.4%) were staying alone. Majority had studied up to primary level (221, 71.8%). Details of the socio-demographic characteristics are shown in **Table 1**.

Table 1. Prevalence of alcohol consumption and alcohol use disorder according to the socio-demographics.

| Background characteristics | n (%) | Prevalence of AUD (95% CI) |
|---|---|---|
| *Sex* | | |
| Male | 165 (53.6) | 49.1 (41.2, 57.0) |
| Female | 143 (46.4) | 29.4 (22.1, 37.6) |
| *Age* (*years*) | | |
| 10 - 14 | 126 (40.9) | 38.9 (30.3, 48.0) |
| 15 - 19 | 182 (59.1) | 40.6 (33.4, 48.2) |
| *Education* | | |
| Primary | 221 (71.8) | 43.9 (37.2, 50.7) |
| Secondary | 87 (28.2) | 29.9 (20.5, 40.6) |
| *Annual household income* (*UGX*) | | |
| Less than 500,000 | 22 (7.1) | 59.1 (36.4, 79.3) |
| 500,000 to 999,999 | 93 (30.2) | 40.9 (30.8, 51.5) |
| 1,000,000 to 1,599,999 | 141 (45.8) | 36.2 (28.3, 44.7) |
| 1,599,999 to 1,999,999 | 46 (14.9) | 41.3 (27.0, 56.8) |
| 2,000,000 or higher | 6 (1.9) | 33.3 (4.3, 77.8) |
| *Relationship status* | | |
| Single | 306 (99.4) | 39.5 (34.0, 45.3) |
| Married | 2 (0.6) | 100.0 (15.8, 100.0) |
| *Living arrangements* | | |
| Alone | 10 (3.2) | 50.0 (18.7, 81.3) |
| With Parents | 266 (86.4) | 41.0 (35.0, 47.1) |
| With others | 32 (10.4) | 28.1 (13.7, 46.7) |
| *Family structure* | | |
| Both parents | 187 (60.7) | 42.8 (35.6, 50.2) |
| Father only | 25 (8.1) | 44.0 (24.4, 65.1) |
| Mother only | 2 (0.6) | 50.0 (1.2, 98.7) |
| Mother & Stepfather | 11 (3.6) | 27.3 (6.0, 61.0)) |
| Father & Stepmother | 80 (26.0) | 32.5 (22.4, 43.9) |
| Adopted | 3 (1.0) | 66.7 (9.4, 99.1) |
| *Family member* | | |
| First child | 97 (31.5) | 37.1 (27.5, 47.5) |
| Second child | 70 (22.7) | 41.1 (29.7, 53.8) |
| Third child | 106 (34.4) | 38.7 (29.4, 48.6) |
| Fourth or youngest child | 35 (11.4) | 48.6 (31.4, 66.0) |
| *Number of children in the family* | | |
| 3 - 4 children | 101 (32.8) | 42.6 (32.8, 52.8) |
| 5 - 7 children | 207 (67.2) | 38.6 (32.0, 45.6) |
| *Overall prevalence of AUD* | | 39.9 (34.4, 45.6) |

Note: Significant differences in frequency of alcohol use disorder observed between males and females ($p$-value = 0.005).

After multivariate analysis, male gender was found to be independently associated with alcohol use (95% CI: 2.47 (1.51, 4.04). Compared to females, male were 2.4% more likely to experience alcohol use disorder. Though level of education and living conditions were not significant, they were left in the model because they are known to influence behavioural outcomes of adolescents. This was also necessary because it informs clinical decisions. Thus, it was important to establish how these variables were behaving in independently influencing alcohol use disorder among adolescents (Table 2).

Table 2. Factors associated with alcohol use disorder (bivariate and multivariate analysis).

| Variables and categories | Alcohol use disorder | | Crude OR (95% CI) | *p*-values (Bivariate model) | Adjusted OR (95% CI) | *p*-values (adjusted model) |
|---|---|---|---|---|---|---|
| | No | Yes | | | | |
| *Sex* | | | | <0.001 | | |
| Male | 84 | 81 | 2.32 (1.45, 3.72) | | 2.47 (1.51, 4.04) | **<0.001** |
| Female | 101 | 42 | ref | | | |
| *Education* | | | | 0.022 | | |
| Primary | 124 | 97 | 1.83 (1.08, 3.12) | | 2.00 (1.14, 3.53) | **0.015** |
| Secondary | 61 | 26 | ref | | | |
| *Annual household income* (*UGX*) | | | | 0.245 | | 0.091 |
| Less than 500,000 | 9 | 13 | 2.13 (0.77, 5.88) | | 2.41 (0.83, 7.03)) | 0.106 |
| 500,000 to 999,999 | 55 | 38 | 1.02 (0.51, 2.04) | | 1.07 (0.51, 2.24) | 0.866 |
| 1,000,000 to 1,499,999 | 90 | 51 | 0.84 (0.44, 1.61) | | 0.74 (0.37, 1.49) | 0.405 |
| 1,500,000 or higher | 31 | 21 | Ref | | | |
| *Age* (*years*) | | | | 0.755 | | |
| 10 - 14 | 77 | 49 | ref | | | |
| 15 - 19 | 108 | 74 | 1.08 (0.67, 1.71) | | | |
| *Relationship status* | | | | NA | | |
| Single | 185 | 121 | | | | |
| Married | 0 | 2 | | | | |
| *Living arrangements* | | | | 0.289 | | |
| Alone | 5 | 5 | 1.44 (0.41, 5.10) | | | |
| With Parents | 157 | 109 | Ref | | | |
| With others | 23 | 9 | 0.56 (0.25, 1.26) | | | |
| *Family structure* | | | | 0.247 | | |
| Both parents | 107 | 80 | Ref | | | |
| "Blended" family | 63 | 31 | 0.66 (0.39, 1.10) | | | |
| Single parent | 15 | 12 | 1.07 (0.47, 2.41) | | | |
| *Family member* | | | | 0.676 | | |
| First child | 61 | 36 | Ref | | | |
| Second child | 41 | 29 | 1.20 (0.64, 2.25) | | | |
| Third child | 65 | 41 | 1.07 (0.61, 1.89) | | | |
| Fourth or youngest child | 18 | 17 | 1.60 (0.73, 3.49) | | | |
| *Number of children in the family* | | | | 0.510 | | |
| 3 - 4 children | 58 | 43 | 1.17 (0.73, 1.91) | | | |
| 5 - 7 children | 127 | 80 | Ref | | | |

## 3. Discussion

We aimed to determine the prevalence of alcohol use disorder in an adolescent population from southwestern Uganda and its association with demographic and family conditions. The prevalence of AUD of 39.9% was higher than what is reported in the available studies in the region (Atwoli, Mungla, Ndung'u, Kinoti, & Ogot, 2011; Francis et al., 2015; Kabiru, Beguy, Crichton, & Ezeh, 2010; Olawole-Isaac, Ogundipe, Amoo, & Adeloye, 2018). This is also supported by results from other studies conducted in Brazil (Pechansky, Szobota, & Scivoletto, 2004), Morocco (El Omari et al., 2015; Manoudi, Boutabia, Asri, & Tazi, 2010), and Switzerland (Dupuis, Baggio, Accard, Mohler-Kuo, & Gmel, 2016). The high prevalence in this study could be due to increased local production and availability of alcohol in the country. Brewing and distilling of alcohol is an accepted economic activity in the general population. In some situations, children are involved in selling home brewed alcohol prompting them to start drinking early. It should be noted that in Uganda there are non-existent policies on alcohol production, sale, marketing and consumption. Also adolescents in Uganda enjoy sports activities yet most of the advertisements in sports are done by breweries. Therefore, the availability of alcohol, together with various social cultural, economic and environmental factors, has created a situation of increased harmful and hazardous consumption of alcohol among adolescents.

Being male was found to be a risk factor for alcohol use and alcohol use disorder. This is consistent with studies conducted in both developed and developing countries (Htet et al., 2020; Pechansky et al., 2004; Petit, Kornreich, Verbanck, Cimochowska, & Campanella, 2013; Reda et al., 2012) hence providing further evidence for sex differences in the prevalence of AUDs. For example in a study by Derese that assessed substance use and risky sexual behaviors among university students, significant gender differences in lifetime alcohol consumption were found (Derese, Seme, & Misganaw, 2014). However, being a cross-sectional study, it was not possible to establish causality in the relationship between alcohol use and gender differences. Further, the method of data collection included self-reports that could increase chances of response bias. In addition, the fact that respondents were required to report behaviours that had occurred in the past (both recent and remote) raised the possibility of recall bias.

The observation that male adolescents consumed alcohol more than the females is in line with traditional view that drinking is more tolerated among males than females (Rukundo, Ayebare, Kibanja, & Steffens, 2020). Cultural, and gender-related factors explain this association (Pechansky et al., 2004). First, gender roles, such as a desire to establish masculinity, increased aggressiveness, demonstration of power, and social status, lead men to engage in more risky behaviour (Obeid et al., 2020), including alcohol use. This was not true for a study in S. Africa that found that female drinkers engaged in risky alcohol drinking patterns as much as males did (Mafa et al., 2019).

In terms of cultural aspects, alcohol is considered as a social drink, and

drinking is considered a social activity. For instance, alcohol is used at cultural functions such as death, birth, marriage, circumcision ceremonies, and the initiation rites of men giving it a high likelihood of use by boys as opposed to girls. In some societies, alcohol use is considered a demonstration of masculinity, and women are prohibited from consuming alcohol as a sign of submission to men (Campbell, 2020) and so it is possible that in the area, girls are more cautious about alcohol use than boys. Girls are socialised to desist from taking alcohol after all, it increases their risk for physical and sexual assault (Asante & Kugbey, 2019; Nolen-Hoeksema & Hilt, 2006). This way, society is more protective of girls as compared to boys leaving boys to engage more in risky behaviours such as alcohol intake.

Another notable finding was family structure/living arrangement. It was established that adolescents who were living with others (one parent, peers) or alone were more likely to present with alcohol use disorder compared to those living with both parents. This finding was consistent with available studies. For instance, in a study to assess correlates of alcohol use among boarding secondary schools adolescents, Osman and others found that living with guardians or alone was significantly associated with alcohol consumption (Osman et al., 2016). Accordingly, students who stayed with friends or alone had higher odds of using alcohol than students who stayed with their family. Staying alone or with peers increased the likelihood of adolescents engaging in alcohol intake. Also guardians and single parents may be less able to provide consistent supervision and monitoring of their children, so adolescents from single parent households have more opportunities to experiment with substance use and other delinquent behaviors compared to youth from two-parent households. In a similar study done in Brazil, it was found that the presence of only the mother in the household was associated with an increase of 22 times in the chance of these adolescents being drug dependent, when compared to adolescents who lived with both parents. This points to the role of parents and family environment in predisposing adolescents to alcohol use and abuse.

## 4. Conclusion

The present study found that the prevalence of alcohol use is high, especially among males. Generally, this finding supports those from previous studies which reported alcohol use among adolescents as an important public health problem as it is a risk factor for alcohol use disorder among adolescents in Uganda. This study increases our understanding of alcohol use disorder among adolescents in Uganda. The ease with which adolescents can obtain alcohol should be investigated. Knowing the prevalence and factors associated with alcohol use disorder is of extreme relevance in order to undertake health program policies, health educational interventions, and early treatment to be able to reduce the burden of alcohol use among this group and to prevent further spread into adulthood.

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## Conflicts of Interest

The authors declare that they have no competing interests.

## Availability of Data and Material

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

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## Author's Contributions

NN, ESO, RM and AR wrote the proposal. NN and GZR were involved in data collection. NN, AR and GZR involved in data analysis. NN, GZR, SA, RM and ESO contributed significantly to the writing and editing of the Manuscript.

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