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Alcohol use disorder and its associated factors among patients with psychiatric conditions admitted at Kabale regional referral hospital, Southwestern Uganda. A cross-sectional study.

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Abstract

Background

Alcohol use disorder has been a public health concern globally. Although research in this area has been conducted, most studies have been conducted in high-income countries, with less research in low-income countries. This study sought to determine the prevalence of Alcohol Use Disorder (AUD) and its associated factors among patients with psychiatric conditions admitted at Kabale regional referral hospital, south western Uganda.

Methodology

The study employed a cross-sectional design, utilizing a quantitative approach that involved collecting quantitative data. The statistical analyses were done using SPSS version 25.

Results

Results from this study revealed that 150 (63.6%) were male and 86 (36.4%) were female and most participants, 132 (55.9%), scored between 0 and 7, indicating low-risk or non-hazardous alcohol use. An additional 58 participants (24.6%) scored 8–15, placing them at increasing risk and suggesting a pattern of alcohol consumption that could lead to health problems. Twelve participants (5.1%) scored between 16 and 19, categorizing them as higher risk, which is typically associated with harmful drinking behaviors. Notably, 34 participants (14.4%) scored 20 or above, indicating a probable alcohol use disorder (AUD). The study further revealed that factors like being male ($p < 0.001$), being raised by a single parent ($p = 0.031$), and tertiary education ($p = 0.022$) were significantly associated with AUD. Other factors were not significantly associated.

Conclusion

The study concludes that 14.4% of mental patients had likely AUD, as determined by the AUDIT instrument.

Recommendation

Mental health facilities should regularly use validated and standardized tools like the AUDIT to screen for AUD. There is also a need for community sensitization programs by the government, focusing on the risks of early alcohol use initiation and its long-term mental health consequences.

Keywords: Alcohol Use Disorder, Psychiatric patient, Alcohol, Kabale
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Background to the study

Alcohol use disorder is a prevalent mental health issue globally, with a 12-month prevalence rate of 6.4% (Rehm & Shield, 2019). There are approximately 2.3 billion current drinkers worldwide, and more than 60% of them engage in heavy episodic drinking (World Health Organization, 2019). Alcohol is responsible for 5.3% of overall mortality and contributes to 5.1% of the global burden of disease. Alcohol use is linked to other substance use, mental health conditions, social dysfunction, homelessness, violence, suicide, homicide, reduced productivity, and various coexisting physical conditions (Castillo-Carniglia et al., 2019; Compton et al., 2007; Curtis et al., 2019; Kiekens et al., 2023; World Health Organization, 2019).

In 2008, Gordon et al. discovered that people with mental illnesses often use and abuse alcohol. The co-occurrence of alcohol use disorders (AUD) and common mental disorders (CMDs) is a well-known and important global public health issue (WHO, 2023). CMDs, including anxiety, depression, and unexplained physical symptoms, are the most common mental illnesses in both developed and developing countries (WHO, 2008). These distressing conditions are frequently

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encountered in community and primary care settings. Currently, CMDs contribute to 14% of the total disease burden (WHO, 2008).

According to the WHO (2018), over 3 million deaths were attributed to alcohol-related risks in 2016. In 2004, the World Health Organization (WHO) disclosed that half of the global population consumes alcohol, with more than 75 million individuals diagnosed with alcohol use disorders (AUDs). WHO identified AUDs as the third most significant cause of ill health and premature death worldwide. In the same year, the WHO reported that the prevalence of AUDs globally varied from 2.2% to 44%. A study conducted by Teferra S et al in 2017 indicated a rise in alcohol-related health and social issues in sub-Saharan Africa.

Alcohol use disorder ranks high among the causes of illness and death on a global scale (Grant BF et al., 2015). An estimated 95 million individuals worldwide are affected by alcohol dependence. Alcohol use disorder involves a lack of control over alcohol consumption, resulting in physical dependence, increased tolerance, and harmful psychological, social, and physical repercussions. These conditions cause significant disability and are linked to numerous physical and mental health conditions (Grant BF et al., 2015) and contribute to 10% of the overall disease burden associated with substance use and mental health disorders (Whiteford HA et al., 2013).

Alcohol use disorder (AUD) is one of the leading preventable causes of illness and death worldwide. The World Health Organization (WHO) estimates that alcohol use contributed to over 200 health disorders, including accidents, infectious diseases, and non-communicable diseases, and caused around 2.6 million deaths in 2019 (WHO, 2023). Even while per-capita consumption has slightly decreased over the last ten years, binge drinking and hazardous drinking are nevertheless prevalent, particularly among youth (WHO, 2023).

According to the Global Burden of Disease (GBD) study, the age-standardized prevalence of AUD has somewhat decreased since 1990; however, due to population growth and demographic changes, the overall number of affected individuals has increased. In 2021, more than 111 million people aged 15 and older suffered from AUD, underscoring the need for targeted prevention and treatment strategies (GBD 2021 Alcohol Collaborators, 2023).

AUD is influenced by a wide range of risk and protective factors. At the individual level, sex, age, genetic susceptibility, and psychiatric comorbidities are significant determinants. At the interpersonal and community levels, peer pressure, alcohol accessibility, family drinking patterns, and cultural norms are all important influences. Structural factors that affect drinking patterns include alcohol taxes, prices, socioeconomic conditions, and the way laws are implemented (Connor & Hall, 2020). Particularly significant are psychiatric comorbidities; research indicates that anxiety and depression roughly double the risk of developing AUD, pointing to a complicated reciprocal link (Grant et al., 2015).

There are also notable regional variations. Heavy episodic drinking is more common among teenagers and young adults, but it is also more common among men. Europe and the Americas have some of the highest rates of AUD worldwide (Rehm et al., 2022). For instance, AUD is estimated to impact 8% of adults in the Americas, with men more likely to be impacted (11.5%) than women (5.1%) (WHO, 2021). Similarly, studies conducted in Europe show that strong cultural and commercial factors are responsible for the early initiation and normalization of alcohol use among teenagers.

In sub-Saharan Africa, risky alcohol consumption is greatly influenced by urbanization, informal alcohol markets, affordability, and loose regulations. Alcohol consumption is among the highest in the region, especially in Uganda, and both reported and unreported alcohol use contribute to risky drinking patterns (Tumwesigye & Kasirye, 2005; WHO, 2018). Studies have revealed a significant prevalence of excessive episodic drinking and alcohol-related diseases, necessitating the urgent need for interventions in accordance with the WHO "SAFER" package (WHO, 2019).

Numerous techniques have been employed by researchers to investigate AUD and its associations. There is a strong correlation between AUD and severe mental disease, anxiety, and depression, according to clinical research on psychiatric populations (Volkow, Koob, & McLellan, 2016). Cravings, mental comorbidities, and social stressors are all indicators of relapse, according to longitudinal research (Boschloo et al., 2012).

According to mixed-methods research, alcohol use disorder (AUD) in Uganda has been associated with home-brewed alcohol, early initiation, sachet usage, gender roles, and long-term alcohol abuse (Tumwesigye et al., 2005). This kind of data shows that in order to address contextual and individual risk factors, regionally tailored treatments are required.

Uganda's alcohol consumption rate in sub-Saharan Africa is one of the highest, with an estimated total of 9.5 liters of pure alcohol per capita among individuals aged 15 and above in 2016 (WHO, 2018). This is in comparison to the entire WHO African Region, which had a total of 6.3 liters per capita.

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Uganda has an annual per capita consumption of pure alcohol at 19.47 liters, which is almost four times higher than the global average and five times higher than the Africa region average. According to the 2014 WHO report, this places Uganda at the top among 189 WHO member states in terms of alcohol consumption. Uganda has previously been acknowledged as one of the highest alcohol consumers in the East African region, with an annual per capita alcohol consumption of 23.7 liters (WHO, 2014).

Numerous studies have shown that a significant number of people in various areas of Uganda, particularly in the southwest region of Kigezi, are affected by alcoholism. As a result, many children in this area face an increased risk of developing mental health problems like anxiety, depression, and alcohol use disorder (UDHS, 2016). It is crucial to promptly recognize co-existing health issues associated with alcohol use disorder to prevent complications and provide comprehensive treatment opportunities for individuals with dual diagnoses. Therefore, this study sought to determine the prevalence of alcohol use disorder and its associated factors among patients with psychiatric conditions admitted at Kabale Regional Referral Hospital, southwestern Uganda.

Materials and methods

Study design

The study adopted a cross-sectional design utilizing a quantitative approach. The study involved the collection of quantitative data. The researcher used a quantitative method approach because quantitative data can be helpful in indicating the extent of AUD and its associated factors among patients diagnosed with psychiatric conditions.

Study setting/site

The study took place at the psychiatry department of Kabale regional hospital, located in Kabale district in western Uganda. Kabale district shares its borders with the Republic of Rwanda in the south and southwest, Rukiga district in the north, and Rubanda district in the west. The process Diagnosis for AUD at KRRH begins with a clinical assessment, which involves history taking by a clinician. The tools used to confirm the diagnosis for AUD were the AUDIT Questionnaire. Kabale RRH has a number of health officers who are involved in AUD diagnosis. They include the following principal clinical psychiatric officer (01), senior psychiatric clinical officer (01), and psychiatric clinical officers (02) who are involved in assessment.

Study population.

The study population was composed of patients with psychiatric conditions who were diagnosed of any psychiatric disorder at Kabale regional referral hospital. This included both the in patients and out patients.

Sampling

The study used purposive sampling in selecting the study area, which is Kabale regional referral hospital, department of psychiatry. This is because the study area is charged with all mental patients, both inpatients and outpatients, including those with AUD in the region.

Patients diagnosed with psychiatric conditions were randomly selected from the patients' record files using convenience sampling, and these were made available to the researcher by health staff in the same department under the recommendation of the hospital top management. The researcher used convenience sampling because it was helpful in saving time which could be spent looking for clients as well as making appointments with them, which may not be easy.

Sample size determination.

The sample size was calculated using Kish and Leslie's formula for estimating a single population proportion, assuming a 95% confidence level and a 5% margin of error. This prevalence estimate was based on previous studies reporting a prevalence of Alcohol Use Disorder of approximately 38% among patients with psychiatric conditions (Musalek & Mitterhauser, 2019; WHO, 2018).

$$n=\frac{Z2 \cdot p.(1-p)}{d2}$$

$$n=\frac{(1.96)2.0.18.(1-0.18)}{(0.05)2}=\frac{3.8416.0.1476}{0.0025}=\frac{0.5672}{0.0025}=226.88$$

Therefore, n=227

To account for potential non-response, a 10% adjustment was applied, yielding a final sample size of 243 participants.

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Sources of Data

Primary Data

Primary data was obtained from the patients and sometimes their caretakers, who provided firsthand information on the subject that was being studied. Primary data were collected using standardized tools that had closed-ended questions.

Data Collection Methods

In order to produce reliable research findings, the study utilized different approaches for collecting data, which include the following.

Data collection instruments

Assessment of alcohol use disorder/ Outcome variable (dependent variable)

The Study used AUDIT to assess for AUD among patients with psychiatric conditions at Kabale regional referral hospital. Developed by the World Health Organization, the Alcohol Use Disorders Identification Test (AUDIT) is a brief (10-item) screening tool that primary care practitioners, healthcare paraprofessionals, and individuals can use to screen others, or themselves, for problematic alcohol use. The AUDIT is provided in both interview and self-report versions and includes illustrations and measures of standard drinks. There is evidence that AUDIT tool has be validated for use in Uganda and has yielded reliable results for example in the Community study done in Kamuli district in Uganda found out that of 21.8% of men had consumed alcohol in the past year, 4.1% of all men were AUDIT positive: 2.9% had AUDIT scores consistent with hazardous drinking, 0.7% with harmful drinking and 0.5% with dependent drinking. (Oliva N et al, 2018).

Predictor variables (Independent variables).

Various predictor variables, such as age, gender, and others, were assessed using a researcher's questionnaire, while specific variables, such as depression and anxiety that were thought to be associated with alcohol use disorder, were assessed as follows.

Assessment of anxiety disorders among patients diagnosed with alcohol use disorder.

To measure anxiety, the Beck Anxiety Inventory (BAI) was used. The Beck Anxiety Inventory (BAI) is a self-report questionnaire widely used to assess the severity of anxiety symptoms. Developed by Aaron T. Beck and colleagues, it consists of 21 questions, each describing a common symptom of anxiety. Respondents rate how much they have been bothered by each symptom during the past week on a scale from 0 (not at all) to 3 (severely).

Assessment of depression disorder among patients diagnosed with Alcohol Use Disorder.

The study used Beck's depression Inventory in assessing depressive disorders among the selected patients. The Beck Depression Inventory (BDI) is a 21-item, self-report rating inventory that measures characteristic attitudes and symptoms of depression (Beck et al., 1961).

BAI OR BDI tools have also been validated for use in similar settings (Nairobi, Kenya) and have yielded good psychometric measures/ results. This study was about the prevalence of depression and anxiety disorders amo ng perinatal teenage girls accessing maternal child health services in Nairobi County, Kenya (Lunar O et al, 2023).

Reliability and validity

The study ensured that the instrument's validity was in line with Miles and Huberman's (1994) definition, which emphasizes that the items must effectively measure their intended targets. The supervisor had the responsibility of establishing the validity of the instruments with the student.

Reliability, according to Miles and Huberman (1994), refers to the consistency of responses produced by the items in an instrument across multiple trials with different audiences in the same setting or circumstances. A pre-test procedure was conducted from Mbarara regional referral hospital in the psychiatry department to determine the reliability of the instruments and data before using them at Kabale regional referral hospital.

Inclusion and exclusion criteria

Inclusion criteria

- Adults aged 18 years and above.
- Those willing to consent to the study.
- Those who had been diagnosed with any psychiatric condition.
- Those who were able to speak or understand Rukiga-Runyankole.

Exclusion criteria

Minors below the age of 18
Very sick patients
Those who were not able to speak or understand Rukiga-Runyankole.

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Research Procedure

The procedures followed in any research study were observed in the study. The researcher used the letter of introduction from the BSU research ethics committee to introduce himself and his research assistants to Kabale regional referral hospital fully explaining the purpose of the research. After obtaining permission from the hospital director, the research team had to go to the psychiatric department and introduce themselves to the health workers in the same department health by the principal psychiatric officer. The research team were welcomed in the same department and granted permission to carry out the study in the same department. It was after that that the team started collecting data. Before collecting data from any respondent, the researchers would first obtain consent from the identified respondent. The researcher also assured the respondents that their views or responses would be kept confidential and were be used for academic purposes only. This helped to build enough confidence in the respondents.

Data analysis.

The statistical analyses were conducted using SPSS version 25. Descriptive statistics were be utilized to analyze continuous variables, with means and standard deviations (SD) reported, while categorical variables were analyzed using frequencies and percentages. Univariate analyses included independent sample t-tests and analysis of variance to assess the impact of various factors on participants' alcohol use disorder. Lastly, linear logistic regression, adjusted for confounding factors, was employed to identify the most influential predictors of alcohol use disorder among patients with psychiatric conditions at Kabale regional referral hospital in Kabale district, Southwestern Uganda.

Ethical considerations

The study started by obtaining ethical clearance from Bishop Stuart University's research ethics committee. This letter was used to explain the study's purpose to the authorities at Kabale Regional Referral Hospital. Upon entering the field, the researcher sought informed consent from the patients with psychiatric conditions admitted to the psychiatric department. The researcher believed that obtaining this letter would help prevent any inconveniences or delays. Before collecting data, the researcher would assure the participants of the confidentiality of their information to encourage them to participate in the study freely. Data collected from the respondents was stored on my my computer with a password as a way of limit access to un-authorized persons.

RESULTS

Demographic characteristics of the respondents

Among the 236 respondents, 150 (63.6%) were male and 86 (36.4%) were female. Most participants, 155 (65.7%), were aged 20–40 years, followed by 60 (25.4%) aged 41–60 years, 13 (5.5%) aged 61 and above, and 8 (3.4%) under 20 years. Regarding education, 138 (58.5%) had primary education, 55 (23.3%) secondary, 36 (15.3%) tertiary, and 7 (3.0%) pre-primaries. In terms of residence, 139 (58.9%) lived in rural areas, 52 (22.0%) in urban areas, and 45 (19.1%) in semi-urban areas. Concerning religion, 112 (47.5%) were Protestant/Anglican, 109 (46.2%) Catholic, 11 (4.7%) Born Again, and 4 (1.7%) Muslim.

Regarding parental marital status, 120 (50.8%) came from married families, 64 (27.1%) widowed, 23 (9.7%) separated, 21 (8.9%) orphans, 5 (2.1%) divorced, and 3 (1.3%) from single-parent households. Birth order distribution showed 51 (21.6%) second-born, 45 (19.1%) fourth-born, 44 (18.6%) third-born, 42 (17.8%) first-born, 25 (10.6%) fifth-born, 11 (4.7%) sixth-born, 7 (3.0%) seventh-born, 5 (2.1%) tenth-born, 3 (1.3%) eighth-born, 2 (0.8%) ninth-born, and 1 (0.4%) twelfth-born, with no eleventh-born participants.

Most fathers were unemployed or peasants (125; 53.0%), 44 (18.6%) were self-employed, 43 (18.2%) were employed, and 24 (10.2%) deceased. Mothers were primarily unemployed or peasants (188; 79.7%), 25 (10.6%) employed, 15 (6.4%) self-employed, and 8 (3.4%) deceased. A majority of participants came from monogamous families (170; 72.0%) compared to 66 (28.0%) from polygamous families. For family history of alcohol use, 146 (61.9%) reported "yes" and 90 (38.1%) "no."Regarding parental education, 126 fathers (53.4%) had primary, 51 (21.6%) tertiary, 36 (15.3%) no formal education, and 23 (9.7%) secondary education. Mothers' education levels included 124 (52.5%) primary, 52 (22.0%) no formal education, 32 (13.6%) tertiary, and 28 (11.9%) secondaries. On alcohol initiation, 216 (91.5%) began between 10–40 years, 17 (7.2%) below 10 years, 1 (0.4%) at 41 years or above, and 2 (0.8%) reported never consuming alcohol.

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Table 1 a) Demographic characteristics of the respondents

Category	Options	Frequency	Percentage (%)
Gender	Male	150	63.6
	Female	86	36.4
	Total	236	100.0
Age category	Below 20 years	8	3.4
	20-40 years	155	65.7
	41-60 years	60	25.4
	61 and above	13	5.5
	Total	236	100.0
Education	Pre primary	7	3.0
	Primary	138	58.5
	Secondary	55	23.3
	Tertiary	36	15.3
	Total	236	100.0
Residence	Urban	22.0	22.0
	Semi urban	19.1	19.1
	Rural	58.9	58.9
	Total	236	100.0
Religion	Catholic	109	46.2
	Protestant/ Anglican	112	47.5
	Muslim	4	1.7
	Born again	11	4.7
	Total	236	100
Parental marital status	Married	120	50.8
	Separated	23	9.7
	Divorced	5	2.1
	Widowed	64	27.1
	Single parent	3	1.3
	An orphan	21	8.9
	Total	236	100
Birth order	1st born	42	17.8
	2nd	51	21.6
	3rd born	44	18.6
	4th born	45	19.1
	5th born	25	10.6
	6th born	11	4.7
	7th born	7	3.0
	8th born	3	1.3
	9th born	2	0.8
	10th born	5	2.1
	11th born	0	0
	12th born	1	0.4
	Total	236	100

Table 1 (b) Demographic characteristics of the respondents

Category	Options	Frequency	Percentage (%)
Father's occupation	Un employed/ peasant	125	53
	Self employed	44	18.6
	Employed	43	18.2
	Deceased	24	10.2
	Total	236	100
Mother's occupation	Un employed/ peasant	188	79.7
	Self employed	15	6.4

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	Employed	25	10.6
	Deceased	8	3.4
	Total	236	100
Family type	Monogamous family	170	72
	Polygamous family	66	28
	Total	236	100
Family history	Yes	146	61.9
	No	90	38.1
	Total	236	100
Father's education level	No formal education	36	15.3
	Primary	126	53.4
	Secondary	23	9.7
	Tertiary	51	21.6
	Total	236	100
Mother's education level	No formal education	52	22.0
	Primary	124	52.5
	Secondary	28	11.9
	Tertiary	32	13.6
	Total	236	100
When you started taking alcohol	Below 10 years	17	7.2
	Between 10-40 years	216	91.5
	41 years and above	1	0.4
	I don't take alcohol	2	0.8
	Total	236	100

Prevalence of alcohol use disorder among patients with psychiatric conditions.

The study identified varying levels of alcohol-related risk among the 236 participants using the Alcohol Use Disorders Identification Test (AUDIT). Most participants, 132 (55.9%), scored between 0 and 7, indicating low-risk or non-hazardous alcohol use. An additional 58 participants (24.6%) scored 8–15, placing them at increasing risk and suggesting a pattern of alcohol consumption that could lead to health problems. Twelve participants (5.1%) scored between 16 and 19, categorizing them as higher risk, which is typically associated with harmful drinking behaviors. Notably, 34 participants (14.4%) scored 20 or above, indicating a probable alcohol use disorder (AUD). This figure represents the actual prevalence of AUD within the psychiatric patient sample, showing that nearly one in seven participants meets the criteria for a likely AUD, even though the majority remain at low or moderate risk of alcohol-related harm.

Table 2; Prevalence of alcohol use disorder among patients with psychiatric conditions.

	Frequency	Percent (%)
0-7 (Low risk)	132	55.9
8-15 (Increasing risk)	58	24.6
16-19 (Higher risk)	12	5.1
20 or more (possible)	34	14.4
Total	236	100

Factors associated with alcohol use disorder among patients with psychiatric conditions.

The regression analysis revealed that being male was significantly associated with higher AUDIT scores compared to females (Estimate = 4.25, $p < 0.001$). Residence did not significantly influence AUDIT scores, with urban (Estimate = 1.79, $p = 0.204$) and semi-urban (Estimate = 0.46, $p = 0.747$) areas showing no significant differences from rural areas. Family history of alcohol use (Estimate = 1.41, $p = 0.199$) and being from a polygamous family (Estimate = 2.08, $p = 0.087$) were not significantly linked to AUDIT scores. Among parental marital status categories, only individuals raised by a single parent had significantly higher AUDIT scores compared to orphans

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(Estimate = 10.93, p = 0.031), while other categories married, separated, divorced, and widowed were not significant. Regarding education, tertiary education was associated with higher AUDIT scores relative to primary education (Estimate = 3.77, p = 0.022), whereas pre-primary and secondary education levels were not significant. No religious affiliation Catholic, Protestant/Anglican, or Born Again showed significant differences from Muslims. Depression scores (SUM_BDI) were positively and significantly associated with AUDIT scores (Estimate = 0.43, p < 0.001), while anxiety scores (SUM_BAI) were not significant (Estimate = -0.03, p = 0.753). Age categories also did not show significant differences compared to the 61 and above group, as presented in Table 3.

Table 3: Factors associated with alcohol use disorder among patients with psychiatric conditions.

Factors associated with alcohol use disorder among patients with psychiatric conditions						
			95% Confidence Interval			
Predictor	**Estimate**	**SE**	**Lower**	**Upper**	**T**	***p-value***
Intercept[a]	-5.428	5.090	-15.461	4.606	-1.066	0.288
Gender:						
Male vs females	4.249	1.138	2.006	6.493	3.734	<0.001 2.4185e-4
Residence:						
Urban – Rural	1.794	1.407	-0.979	4.568	1.275	0.204
Semi urban – Rural	0.464	1.439	-2.372	3.299	0.322	0.747
Family_History:						
Yes – No	1.414	1.097	-0.748	3.576	1.289387	0.199
Family_type:						
Polygamous family – Monogamous family	2.078	1.209	-0.305	4.460	1.718	0.087
Parental_Marital_Status:						
Married – An orphan	1.829	2.145	-2.399	6.058	0.853	0.395
Separated – An orphan	2.725	2.571	-2.342	7.792	1.060	0.290
Divorced – An orphan	-0.221	4.121	-8.344	7.903	-0.054	0.957
Widowed – An orphan	0.946	2.111	-3.214	5.107	0.448	0.654
Single parent – An orphan	10.931	5.022	1.032	20.830	2.177	0.032
Education:						
Pre primary – Primary	1.940	3.167	-4.302	8.182	0.613	0.541
Secondary – Primary	1.641	1.328	-0.977	4.259	1.236	0.218
Tertiary – Primary	3.766	1.635	0.543	6.988	2.304	0.022
Religion:						
Catholic – Muslim	5.767	4.112	-2.331	13.874	1.402	0.162
Protestant/Anglican – Muslim	5.941	4.105	-2.141	14.040	1.449	0.149
Born again – Muslim	2.234	4.743	-7.116	11.584	0.471	0.638
Depressive symptoms	0.431	0.115	0.205	0.657	3.757	(<0.001) 2.2158e-4
Anxiety symptoms	-0.021	0.095	-0.217	0.157	-0.316	0.753
Age_Category:						
Below 20 years – 61 and above	0.791	3.809	-6.717	8.298	0.208	0.836
20-40 years – 61 and above	2.467	2.483	-2.429	7.363	0.993	0.322
41-60 years – 61 and above	0.717	2.507	-4.223	5.659	0.286	0.775
[a]Represents reference level						

Discussion of the results

Prevalence of alcohol use disorder among patients with psychiatric conditions.

Based on an AUDIT score of 20 or higher, 14.4% of patients with psychiatric conditions in the present study met the criteria for probable alcohol use disorder (AUD). This result aligns with previous research and highlights the significant burden of AUD among psychiatric populations.

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For example, Liskola et al. (2018) reported a 12.7% prevalence of AUD among psychiatric outpatients in Finland, a figure closely comparable to the current finding. Minor differences between the two studies may be explained by variations in sample characteristics, diagnostic procedures, and cultural perceptions of alcohol. Nonetheless, the similarity in prevalence underscores that AUD remains a common comorbidity in psychiatric settings across both high- and low-income countries.

In contrast, a large-scale global study by Degenhardt et al. (2014) estimated that 20%–30% of individuals with psychiatric disorders experience AUD, particularly those with severe mental illnesses and patients in inpatient care. The relatively lower prevalence in this study (14.4%) may be attributed to the focus on both outpatients and inpatients, potential underreporting due to stigma surrounding alcohol use, and cultural variations in drinking behaviors in Uganda compared to other regions.

Factors associated with AUD among patients with psychiatric conditions.

This study revealed that male participants recorded significantly higher AUDIT scores than females, suggesting that men are more affected by alcohol use disorder. This highlights the need for gender-responsive interventions that specifically address men's drinking behaviors, which are often shaped by cultural norms and gender expectations. These findings align with global research (WHO, 2018), which consistently shows that men are at greater risk for hazardous alcohol consumption.

No significant differences in AUDIT scores were observed between participants from urban, semi-urban, and rural areas, indicating that drinking patterns are relatively similar across these environments in this context. This suggests that alcohol-related policies should target all communities equally rather than focusing predominantly on urban populations. This is consistent with studies such as Smith et al. (2021), which found inconsistent urban-rural variations in alcohol use across different populations.

Although family history was not significantly linked to AUDIT scores, individuals with such a background tended to have higher scores, suggesting a possible role of genetic and environmental influences. This underscores the importance of early detection and preventive measures for those with a family history of alcohol use.

Participants from polygamous households showed higher AUDIT scores than those from monogamous families, although the difference was not statistically significant. This trend suggests that complex family structures may contribute to alcohol misuse due to psychosocial stressors or reduced parental oversight. Broader research on family instability and substance use (Kerr et al., 2021) lends support to this interpretation, indicating the potential value of family-based interventions.

The study also showed that individuals raised by single parents had higher AUDIT scores compared to orphans, implying that single-parent upbringing may heighten vulnerability to alcohol misuse. This finding highlights the need for additional support systems for single-parent households.

Higher AUDIT scores were also reported among those with tertiary education compared to individuals with only primary education. This suggests that advanced education may correlate with greater alcohol use, possibly linked to university and peer drinking cultures.

No significant differences in AUDIT scores were found between Muslim participants and other religious groups, though Christians showed slightly higher averages.

A significant positive relationship was found between depression scores and AUDIT scores, indicating that greater depressive symptoms increase the likelihood of alcohol misuse. This finding underscores the need to integrate mental health screening and treatment with alcohol use interventions. Similar conclusions were drawn in prior research (Boden & Fergusson, 2019), which highlighted the frequent co-occurrence of depression and alcohol use disorder.

Conversely, no significant link was observed between anxiety scores and AUDIT scores, suggesting that anxiety may not directly predict alcohol use in this sample. Nonetheless, clinicians should continue monitoring anxiety symptoms given their clinical importance. This result mirrors the mixed findings reported in meta-analyses (Buckner et al., 2020), where associations between anxiety and alcohol use varied by population.

Lastly, no significant differences in AUDIT scores were identified across age groups, differing from global studies that often find higher alcohol risks among younger adults. This may reflect local cultural or sample-specific dynamics. Still, international evidence (WHO, 2022; Keyes et al., 2020) highlights young adults as a high-risk group, underscoring the importance of youth-focused prevention strategies.

Conclusions

The study concludes that several psychosocial and demographic factors are linked to alcohol use disorder (AUD) among patients with psychiatric conditions.

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Specifically, being male, having attained tertiary education, growing up in a single-parent household, and exhibiting higher depressive symptoms were significantly associated with elevated AUDIT scores, reflecting a greater risk of alcohol misuse. Other factors, including place of residence, family history, family structure, religious affiliation, and age, did not show significant associations, although some trends were noted.

These findings indicate that interventions targeting AUD should consider gender-specific strategies, integrate mental health and alcohol treatment, and provide additional support for individuals from single-parent families or those in higher education settings. The results also emphasize the importance of targeted screening and early intervention within mental health services to address the combined impact of psychiatric disorders and alcohol misuse.

Study recommendations

Based on the findings of this study, the following recommendations are made:

Mental health programs should focus on interventions for male patients with psychiatric conditions, as they tend to have higher AUDIT scores. Implementing gender-sensitive strategies, such as male-focused counseling and peer support groups, could improve the effectiveness of alcohol use disorder (AUD) treatment.

Given the link between single-parent upbringing and elevated AUDIT scores, mental health services should include psychosocial assessments that consider childhood family structures. Support measures should involve trauma-informed care and screening for early life stress.

Since higher depressive symptoms are strongly associated with AUD, psychiatric care should integrate routine depression screening and management within alcohol treatment protocols. This combined approach can enhance outcomes for both mental health and substance use.

With tertiary education linked to higher AUDIT scores, awareness campaigns should be reassessed to effectively reach educated populations, including workplace-focused mental health and alcohol risk education.

Policymakers should increase resources to address the dual burden of psychiatric disorders and substance abuse, including training mental health professionals in substance use management and developing rehabilitation facilities tailored to patients with psychiatric conditions.

Screening programs for AUD should prioritize depression, particularly among male patients and individuals from families with lower maternal education, who appear especially vulnerable.

Areas for further research

A thorough qualitative investigation is recommended to explore the sociocultural and individual factors that affect alcohol use and mental health in patients with psychiatric conditions.

List of abbreviation.

AUD: Alcohol Use Disorders
AUDIT: Alcohol Use Disorders Identification Test
BAI: Beck Anxiety Inventory
BDI: Beck Depression Inventory
CMDs: Common Mental Disorders
KRRH: Kabale Regional Referral Hospital
SD: Standard Deviation.
UHDS: Uganda Health Demographic Systems
WHO: World Health Organisation

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