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Prevalence of Alcohol Use Disorders and Self-Esteem Levels among Undergraduate Students: A Cross-Sectional Study at Kampala International University's Western Campus, Uganda

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ABSTRACT

This cross-sectional study conducted at Kampala International University's Western Campus (KIU-WC) in Western Uganda aimed to investigate the prevalence of alcohol use disorders and assess self-esteem levels among undergraduate students. Utilizing the Alcohol Use Disorders Identification Test (AUDIT) and the Rosenberg Self-esteem Scale, data were collected from 366 participants to explore the relationship between alcohol consumption and self-esteem within the academic environment. Results revealed that 33.1% of participants acknowledged alcohol use, with 18.6% identified as being at a higher risk of alcohol use disorder. Among alcohol users, the prevalence of alcohol use disorders (AUDIT score ≥ 20) was 33.9%, leading to an overall prevalence of 11% across the entire undergraduate student population. Self-esteem scores ranged from 11 to 30, with a median of 18. Findings indicated that 7.9% of respondents exhibited low self-esteem, while 91% demonstrated normal self-esteem, and 1.1% showcased high self-esteem. These findings underscore the need for targeted interventions to address alcohol use disorders and promote positive self-esteem among university students in Uganda.

Keywords: Prevalence, Alcohol, Disorders, Self-esteem, Undergraduate Students, Uganda.

INTRODUCTION

Alcohol consumption has been deeply ingrained in various societies for centuries, playing diverse roles in social, cultural, and religious contexts [1-3]. However, its excessive use is associated with numerous negative consequences, including health risks, social problems, and economic burdens [4-5]. Despite increasing awareness of these issues, alcohol consumption rates continue to rise, particularly among young populations in low- and middle-income countries [6-7]. Uganda, in particular, faces significant challenges related to alcohol consumption, with exceedingly high rates compared to the global average [8-9]. The cultural acceptance and economic importance of alcohol in Uganda contribute to its widespread use, making it a pertinent public health concern [11-13]. Studies indicate a concerning trend of early alcohol initiation among adolescents and young adults in Uganda, emphasizing the need for targeted interventions to address this issue [14-17]. Moreover, the academic environment, particularly universities, presents unique challenges regarding alcohol consumption among students [18-21]. Factors such as academic stress, peer pressure, and social norms can influence alcohol use behaviors among undergraduate students. Understanding the prevalence of alcohol use disorders within this demographic is crucial for developing effective interventions to mitigate its negative impact [22-24]. Kampala International

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University's Western Campus (KIU-WC) serves as a significant educational institution in Western Uganda [25-27]. Despite its academic focus, the campus community is not immune to the broader societal challenges related to alcohol consumption [28-32]. Therefore, investigating the prevalence of alcohol use disorders among undergraduate students at KIU-WC provides valuable insights into the extent of alcohol-related issues within this specific academic setting [33-36]. Furthermore, exploring the relationship between alcohol consumption and self-esteem among university students is essential for understanding the complex interplay between psychological factors and alcohol use behaviors [37-39]. Self-esteem, defined as an individual's subjective evaluation of their own worth and capabilities, plays a crucial role in shaping behaviors and decision-making processes [40-42]. Understanding how self-esteem levels correlate with alcohol use behaviors can inform targeted interventions aimed at promoting positive self-esteem and reducing alcohol-related harm among university students in Uganda [43-44]. In light of these considerations, this study aims to investigate the prevalence of alcohol use disorders and assess self-esteem levels among undergraduate students at Kampala International University's Western Campus (KIU-WC) [45-46]. By utilizing validated assessment tools such as the Alcohol Use Disorders Identification Test (AUDIT) and the Rosenberg Self-esteem Scale, this research seeks to provide comprehensive insights into the intersection between alcohol consumption and self-esteem within the academic environment. Ultimately, the findings of this study can inform evidence-based interventions tailored to address alcohol-related issues and promote overall well-being among university students in Uganda.

Aim of the Study

The primary aim of this research was to determine the prevalence of alcohol use disorders among undergraduate students at KIU Western Campus, providing insights into the extent of alcohol-related issues within this academic community.

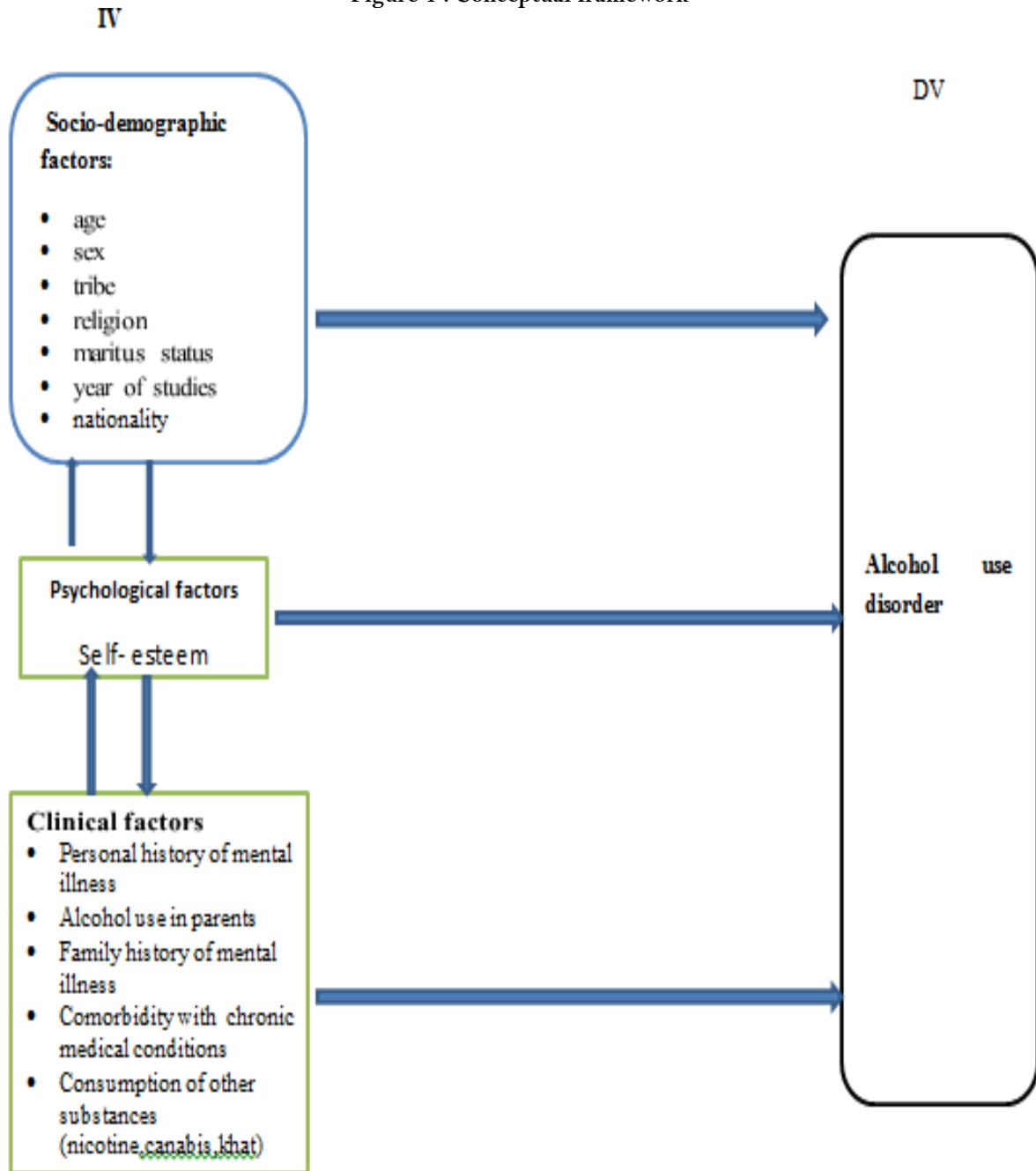
Research Question

What is the prevalence of alcohol use disorders among undergraduate students at KIU WC?

Research Hypothesis

The prevalence of alcohol use disorders among university students at KIU WC is high. This study fills a critical gap in understanding alcohol-related behaviors and their impact on self-esteem among undergraduate students in Uganda, thereby informing the development of effective interventions to address these issues and promote overall well-being within the academic setting.

Figure 1 : Conceptual framework



Description of the Conceptual Framework

The figure above illustrates the interplay between the independent and dependent variables of this study, including both sociodemographic and clinical factors alongside psychological elements. The study explores how these factors influence each other, particularly focusing on the relationship between sociodemographic factors, clinical variables, and self-esteem among university students. Sociodemographic factors encompass variables such as age, sex, religion, year of study, nationality, marital status, and tribe. Clinical factors include aspects like the consumption of other substances, personal and family history of mental illness, alcohol use in parents, and comorbidity with chronic medical conditions. Additionally, psychological factors are represented by self-esteem. These variables interact in a complex manner: sociodemographic factors can impact self-esteem, while self-esteem can also influence sociodemographic variables. Clinical factors, on the other hand, may influence psychological

factors, particularly self-esteem, and vice versa. This intricate web of interactions is central to addressing research question number three, which examines the level of self-esteem among university students.

Geographical Scope

The study was conducted at the Western Campus of Kampala International University (KIU-WC), located in Bushenyi district, southwestern Uganda. This campus, established in 2004, spans approximately 70 acres along the Mbarara-Ishaka highway. Situated 62 kilometers west of Mbarara and 340 kilometers from Kampala, the capital city of Uganda, KIU-WC serves as a significant educational institution in the region.

Time Scope

Data collection for the study took place over a one-month period, from July to August 2023.

METHODOLOGY

Study Design: An institutional-based, descriptive cross-sectional study design was employed.

Study Area: The Western Campus of Kampala International University (KIU-WC), located in Ishaka Town, Bushenyi District, served as the study area. This campus houses various faculties, including the Faculty of Clinical Medicine and Dentistry, where the Department of Mental Health and Psychiatry is situated.

Study Population: The target population comprised all undergraduate students registered at KIU-WC during the study period.

Sample Population: The sample population consisted of all current undergraduate students at KIU-WC at the time of the study.

Eligibility Criteria: Inclusion criteria encompassed participants aged 18 years or older, capable of understanding study procedures, and providing informed consent. Exclusion criteria included undergraduate students with severe physical or mental illnesses that rendered them unstable.

Study Variables: The dependent variable was alcohol use disorders among undergraduate students of KIU-WC. Independent variables included sociodemographic factors (e.g., age, sex, religion), clinical factors (e.g., personal and family history of mental illness), and psychological factors (e.g., self-esteem).

Sample Size Determination: The desired sample size was calculated using established prevalence rates and precision levels, resulting in a sample size of 365 respondents.

$$n = \frac{(z_{\alpha})^2 \times p \times (1 - p)}{e^2}$$

Where

n = Desired sample size

z = Standard normal deviation at 95% level of confidence; z= 1.96

p = Prevalence of alcohol use of 31.5% and

e = Level of precision=0.05

N= $(1.96)^2 \times 0.315(1-0.315) / (0.05)^2$

N=331 +10%=365

Sampling Technique: Consecutive sampling was employed, where participants were selected based on convenience, ensuring representation across different classes and faculties.

Study Procedure: After obtaining necessary approvals, researchers visited various classes to explain the study and distribute the online questionnaire. Participants were invited to consent before completing the questionnaire, which included assessments for sociodemographic factors, alcohol use disorders, and self-esteem.

Data Collection Tools: Data collection instruments included a questionnaire covering sociodemographic and other associated factors, the Alcohol Use Disorders Identification Test (AUDIT), and the Rosenberg self-esteem scale.

Validity and Reliability: The instruments utilized in the study had been previously validated and demonstrated reliability in similar contexts within Uganda.

Data Analysis Plan: Data collected from questionnaires were entered into Microsoft Excel and analyzed using STATA 15. Descriptive statistics were used to summarize continuous and categorical variables.

Quality Control: Strict adherence to inclusion and exclusion criteria was maintained, and questionnaires were checked for completeness before distribution to ensure accurate data collection.

Ethical Considerations: Participants provided voluntary informed consent, and measures were taken to minimize discomfort or adverse events during data collection. Privacy and confidentiality were upheld, and ethical approvals were obtained from relevant authorities.

Incentives and Reimbursement: No incentives or rewards were provided to participants for their involvement in the study.

Ethics Approval: The study received approval from the Directorate of Higher Degrees and Research, as well as relevant institutional and national ethics committees, prior to data collection.

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RESULTS

Response Rate

The target population for the study was 364 participants. However, during the study period, 366 undergraduate students at KIU WC consented to participate in the study and answered all the questions. The results of all 366 students were analyzed.

Sample characteristics

In total, we enrolled 366 respondents among whom 63 (17.2%) were using substance. More than half of participants were 24 years old (58.8%), men (69.9%), single (88.9%), Christians (88.6%), Ugandans (95.1%), living non-university hostels (81.1%), and private students (68.9%). While the majority of participants had negative history of parent's use of substance (65.9%), chronic illness (85%); 5.8% of respondents had a positive of being diagnosed for a mental disorders and 31.3% of participants had a family history of mental disorders. The common substances used by the participants were alcohol, wine, caffeine. There were more participants among male students using substance compared to those who did not, and the difference was statistically significant ($X^2 = 5.74$, $p = 0.017$). Moreover, there were more participants without a personal history of mental disorder compared to those with it, and the difference was statistically significant ($X^2 = 6.81$, $p = 0.009$) (Table 1).

Table 1: Description of study participants (N = 366)

Variables	All(N=366) n (%)	No Alcohol use (n = 245) n (%) 245(66.9)	Alcohol Use (n = 121) n(%) 121(33.1)
Sociodemographic factors			
Age (years)			
≤24	215 (58.7)	147 (40.2)	68 (18.6)
25-30	124 (33.9)	83 (22.7)	41(11.2)
>30	27 (7.4)	15(4.1)	12(3.3)
Gender			
Male	256 (69.9)	169(46.2)	87(23.8)
Female	110	76(20.8)	34(9.3)
Marital status			
Single	328 (88.6)	219(59.8)	109(29.8)
Married	34 (9.3)	24(6.6)	10(2.7)
Divorced	3 (0.8)	1(0.3)	2(0.6)
Widowed	1 (0.3)	1(0.3)	0(0)
Religion			
Christian	324 (88.5)	207(56.6)	117(32)
Muslim	37 (10.1)	36(9.6)	1(0.3)
Atheist	5 (1.4)	2(0.6)	3(0.8)
Residency			
University hostel	69	48(13.1)	21(5.7)
Other hostels	297 (81.1)	197(53.8)	100(27.3)
Nationality			
Ugandan	348 (95.1)	230 (62.8)	118(32.3)
Somali	1	1(0.3)	0(0)
Tanzanian	2	2(0.6)	0(0)
Rwandese	5 (1.4)	4(1.1)	1(0.3)
Cameroon	2 (0.6)	1(0.3)	1(0.3)
South Sudanese	2 (0.6)	2(0.6)	0
Nigeria	1 (0.3)	1(0.3)	0
Kenya	5 (1.4)	4(1.1)	1(0.3)
Sponsorship			
Private	252 (68.9)	162(44.3)	90(24.6)
Government	30 (8.2)	21(5.7)	9(2.46)
Others	84	62(16.9)	22(6.0)
Duration of the course			
2 Years	19 (5.20)	17(4.6)	2(0.6)
3 Years		49(13.4)	10(2.7)
4 Years		11(3.0)	11(3.0)
5 Years		79(21.6)	49(13.4)
6 Years		89(24.3)	49(13.4)
Clinical factors			

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Having a diagnosis of mental illness			
Absent	345 (94.3)	233(63.7)	112(30.6)
Present	21 (5.7%)	12(3.3)	9(2.5)
Mental illness in the family			
No	255 (69.7)	167(56.6)	88(24.0)
Yes	111	78(21.3)	33(9.0)
Having chronic illness			
No	311 (85)	206(56.3)	105(28.7)
Yes	55	39(10.7)	16(4.4)
Parent using alcohol			
No	241 (65.9)	173(47.3)	68(18.58)
Yes	125 (34.2)	72(19.7)	53(14.5)
Self-esteem			
low	29 (7.9)	20(5.5)	9(2.5)
normal	333 (90.1)	223(60.9)	110(30.1)
high	4 (1.1)	2(0.6)	2(0.6)

Prevalence of alcohol use disorders among KIU undergraduate students

Alcohol use disorder was determined using the AUDIT score ranged from 0 to 35 with the median of 9, inter quartile range of 0 to 29. In general, 121 respondents (33.1%) use alcohol (Figure 2) among which 68 participants (18.6%) were at higher risk of alcohol use disorder. The prevalence of alcohol use disorder (AUDIT score ≥ 20) among participants using alcohol was 33.9% (Table 2). The overall prevalence of alcohol use disorders among undergraduate students (n=366) was 11 % (44 participants) with alcohol use disorder.

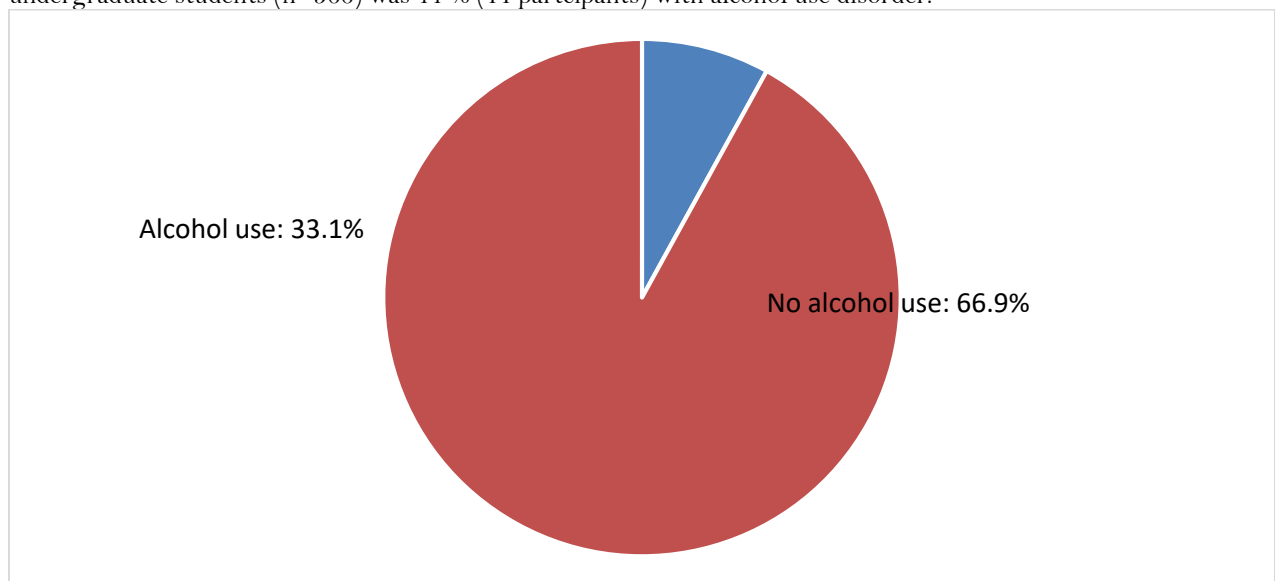


Figure 2: Distribution of participants according to alcohol use (n=366)

Table 2: Distribution of participants using alcohol according to the risk of alcohol use disorder (n=121)

Variables	Frequency	Percentage
Increasing risk	12	9.9
Higher risk	68	56.2
Alcohol use disorder	41	22.9

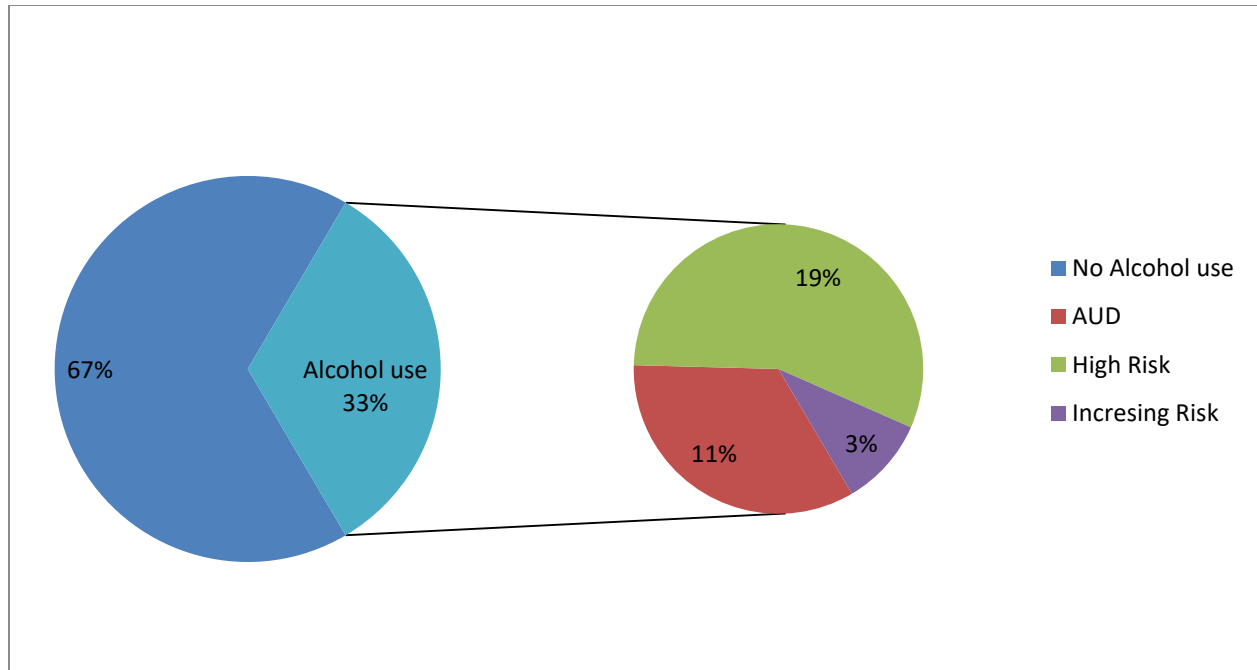


Figure 3: Different levels of Self-esteem among KIU university students

Self-esteem levels were evaluated using the Rosenberg Self-esteem Scale, with scores ranging from 11 to 30 and a median of 18 [interquartile range (IQR): 16-20]. Among the respondents, 29 individuals (7.9%) exhibited low self-esteem.

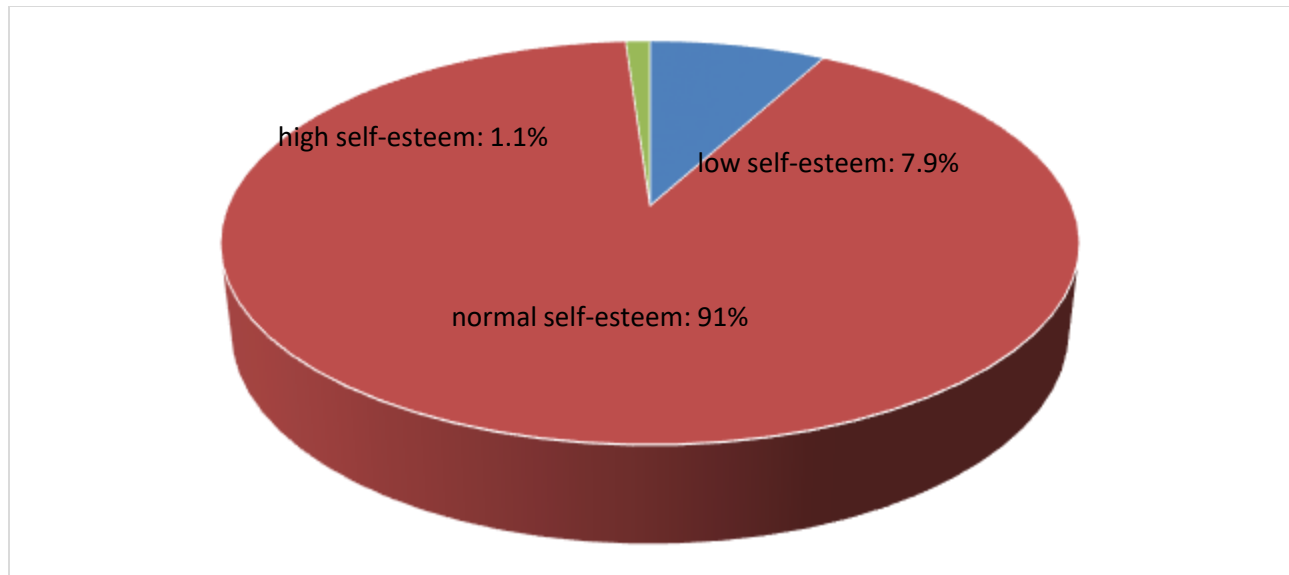


Figure 4: Distribution of participants according to self-esteem (n=366)

DISCUSSION

At KIU WC, 11% of students were found to have alcohol use disorders, a prevalence similar to that observed in studies conducted in Ethiopia [27] and Thailand [17]. Comparatively, in Uganda, [20] reported a lower prevalence of alcohol misuse at 8.9% among students of Makerere University. However, this prevalence was notably lower than that reported in Spain by [33], where alcohol use disorder prevalence was 16.9%. In Southeast Asia, particularly Laos, the prevalence of alcohol use disorder among university students was notably higher at 24.4%, while in Kenya and Ethiopia, prevalence rates of alcohol abuse were reported at 21.1% and 26.5%, respectively [16,19]. Disparities in prevalence rates may be attributed to variations in study design, sample size, and regional differences, as well as cultural influences on alcohol consumption habits. In this study, self-esteem was assessed using the Rosenberg Self-esteem Scale, with scores ranging from 11 to 30 and a median of 18 [IQR: This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

16-20]. Among respondents, 7.9% had low self-esteem, 91% had normal self-esteem, and only 1.1% had high self-esteem. Our findings contrast with those from Saudi Arabia, where [8] reported a higher percentage (19.55%) of students with low self-esteem, particularly among nursing students, many of whom were female. During the COVID-19 pandemic, [11], found a substantial prevalence (41%) of low self-esteem among university students in Saudi Arabia, suggesting a potential exacerbation due to pandemic-related hardships. Interestingly, our study did not find an association between low self-esteem and alcohol use, consistent with findings by [7]. However, this contradicts studies conducted in the UK by [8] and in Western Uganda by [9], which did observe such an association. [7], similarly found an association between low self-esteem and alcohol consumption in China, differing from our results. These findings diverge from those of [9], who reported a higher prevalence of low self-esteem (52.5%) among college students, with 47.5% having high self-esteem.

CONCLUSION

The prevalence of alcohol use disorders at KIU-WC (11%) is consistent with similar findings in Ethiopia and Thailand, but differs from reported figures in Spain, Laos, Kenya, and Ethiopia. Discrepancies can be attributed to variations in study design, sample size, and regional contextual factors. In contrast to certain international studies, this research indicates that low self-esteem (7.9%) is not significantly linked with alcohol use. Significant differences in self-esteem outcomes across cultures emphasize the need for nuanced, context-specific interpretations. This study yields valuable insights into the correlation between alcohol use disorders and self-esteem levels among university students in Western Uganda, laying groundwork for tailored interventions to promote student well-being.

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