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# Alcohol consumption and awareness of its link to dementia development among adults in Uganda: a qualitative study

Abraham Muhwezi<sup>1</sup>, Tom Murungi<sup>3\*</sup>, Pius Musinguzi<sup>2</sup>, Davis Akampumuza<sup>2</sup>, Mary Samantha<sup>8</sup>, Celestino Obua<sup>5</sup>, Godfrey Zari Rukundo<sup>7</sup>, Samuel Maling<sup>4</sup> and Edith K. Wakida<sup>6</sup>

\*Correspondence:

Tom Murungi  
tommurungi1999@gmail.com

Full list of author information is available at the end of the article

## Abstract

**Background** Alcohol use has a significant mental health impact and is a known modifiable risk factor for dementia. In Uganda, where alcohol consumption rates are high, awareness of its link to dementia remains poorly understood. This study explored the understanding of this relationship among adults in Uganda using the Health Belief Model (HBM).

**Methods** We conducted a qualitative descriptive study among 20 adults aged 18 and older, purposively selected from Lira and Isingiro districts in Northern and Southwestern Uganda. Data were collected through in-depth interviews, transcribed verbatim, and thematically analyzed using HBM constructs.

**Results** Five themes emerged: (1) Perceived susceptibility and severity; some participants recognized that high alcohol intake could lead to memory loss and cognitive decline, though many believed dementia was simply part of ageing; (2) Perceived barriers including peer influence, health myths, habitual use, and easy access to alcohol; (3) Perceived benefits; few believed that awareness of the alcohol–dementia link could motivate behavior change; (4) Self-efficacy; some found it difficult to regulate drinking despite recognizing risks; and (5) Cues to action; suggestions included public sensitization and alcohol policy enforcement.

**Conclusion** Awareness of alcohol's role in dementia development was limited, and ageing was commonly misperceived as the sole cause of cognitive decline. Misconceptions about alcohol's health benefits perpetuated its use. Interventions should emphasize education on alcohol's cognitive effects and promote dementia risk reduction strategies.

**Keywords** Alcohol consumption, Dementia, Awareness, Health belief model, Uganda, Adults



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## 1 Introduction

The increasing global burden of dementia has become a major public health concern, as it is the seventh leading cause of death, with around 60% of cases residing in low- and middle-income countries [1, 2]. In Africa, the prevalence of dementia is approximately 2.0%, with Sub-Saharan Africa reporting a higher rate of 5.0% [1, 3]. In Uganda, previous community-based studies have reported the prevalence of dementia in older adults to be 20% in the southwestern region [4] and 23% in the Northern region [5].

Alcohol use is a known modifiable risk factor for dementia [6, 7]. Evidence suggests that increasing alcohol consumption leads to the production of neurofibrillary tangles and neurodegeneration, hence affecting the ability to memorize new information [8]. Some studies suggest that light-to-moderate alcohol consumption may reduce dementia risk compared to non-drinkers and heavy drinkers [9, 10], while others argue that any amount of alcohol can increase the risk of developing dementia [11]. Alcohol consumption in Uganda remains high, with an average of 12.21 L per person annually, making it the African country with the highest per capita alcohol intake [12]. This statistic emphasizes the increased risk of dementia within the population, given the established link between high alcohol use and cognitive decline.

While studies indicate a link between alcohol consumption and the development of dementia, it remains unclear if this information is known to the general public. Moreover, awareness of dementia among adults is limited, often seen as a natural part of ageing rather than being associated with other potential factors such as alcohol consumption [13, 14]. In contrast, findings from Denmark show that over 60% of the adult population recognized that alcohol consumption increases the risk of dementia [15, 16]. Little is known about this link in Uganda. We used the Health Belief Model (HBM) to explore the awareness of the relationship between alcohol consumption and the development of dementia among adults in Isingiro and Lira districts.

## 2 Materials and methods

### 2.1 Study design

This was a qualitative descriptive study conducted in Lira and Isingiro districts in December 2024. The study was guided by the Health Belief Model (HBM), originally developed in the 1950s by Hochbaum and later expanded by Rosenstock, Janz and Becker, to explain how individuals' health-related beliefs influence their behaviour [17–19]. Over time, the model has been adapted, most notably with the addition of self-efficacy, and it remains widely used in contemporary health-behaviour research. It has 6 domains that include perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy. In this study, we contextualized these domains as perceived susceptibility to alcohol related dementia, perceived severity of alcohol related dementia, perceived barriers to reduce alcohol use, perceived benefits of knowing the link between alcohol use and development of dementia, perceived self-efficacy to reduce alcohol use, cues to action to limit alcohol use and its health risks.

### 2.2 Study site and setting

The study was conducted in Isingiro and Lira districts in Southwestern and Northern Uganda, respectively. In the Lira district, we recruited participants from the greater Lira district, including both the district and the city. Lira district and Lira city have a

population of 242,099 and 304,057, respectively [20]. In addition, the district has two counties, Erute South and North, whereas the city is made up of Lira City West and East divisions. We conducted the study in Adyel and Amuca sub-counties of Lira city and Barr and Ogur sub-counties of Lira District. We selected the study site due to the reported high prevalence of early alcohol use, with about 80% of the population starting consumption at a young age [21].

On the other hand, Isingiro district has a population of 635,077 and is among the most populated districts in Uganda, according to the 2024 Population Census [20]. Based on reports from the local government of Isingiro district, the high prevalence of alcohol use remains a significant public health challenge [22]. Thus, it was worth studying the awareness of the impact of alcohol consumption on the development of dementia. Participants from Kabuyanda sub-county and Isingiro Town Council were interviewed.

### **2.3 Study population**

We conducted this study among adults aged 18 and above who reside in Isingiro and Lira Districts, including Lira City. Participants were required to have lived in these areas for at least six months before the study and willing to participate voluntarily. We excluded individuals who were unable to speak or those experiencing cognitive impairments or severe medical conditions that could hinder their ability to participate.

### **2.4 Participant selection and sample size**

We purposively selected 20 participants, of which 10 were from the Northern region (Lira district) and 10 were from the Southwestern region (Isingiro district). We included individuals from specific age brackets: young adults aged < 30 years, middle-aged individuals between 30 and 60 years, and older adults aged >60. In addition, we targeted communities known for their high prevalence of alcohol consumption, ensuring a diverse representation of experiences and perspectives related to alcohol consumption. We assumed that 10 participants from each region would be sufficient to reach thematic saturation based on prior qualitative studies in similar settings [23, 24]. Saturation was assessed iteratively during data collection by monitoring for the emergence of new codes and concepts. Once interviews no longer yielded novel information across HBM domains, data collection was concluded.

### **2.5 Data collection tools and procedures**

This study employed an interview guide developed by the research team, namely (AM), (PM), (TM), and (DA) based on HBM and the questions in the guide were reviewed by an experienced qualitative researcher (EKW) to make sure they were in line and relevant to the study. In-depth interviews (IDIs) were conducted by the research team with support from three trained research assistants per site. Interviewers received a two-day training facilitated by the study's qualitative research expert (EKW), with a PhD in Implementation Science and experience in designing and conducting qualitative health research in Uganda. The training session focused on qualitative interviewing techniques, research ethics, and strategies to maintain neutrality and minimize interviewer bias. They were also trained on how to probe sensitively and avoid leading questions. To ensure cultural and linguistic accuracy, interview guides were translated into local

languages (Runyankole-Rukiga and Lango) and then back-translated into English by bilingual experts.

The interview guide included questions such as, “Describe what you know about dementia and share any experiences with patients having dementia”, “share your opinions on alcohol use and its possible impact on the development of dementia” which was probed further to bring about awareness of how people that consume alcohol are susceptible to developing dementia and how severe the effects would be. The participants were also asked about what they know regarding alcohol use effects and the risk of developing dementia. More questions included: “How has the awareness of the risk between alcohol use and the development of dementia influenced your alcohol consumption habits?”, “What do you think are the benefits of the awareness about the link between alcohol use and the development of dementia?” and “What do you think are the drivers for alcohol consumption despite awareness of its link to the development of dementia?”, “How confident are you if you decided to stop alcohol use, and what strategies do you think you could use or have taken to reduce alcohol consumption?”

During data collection, field notes and debrief sessions were used to cross-check contextual meanings and ensure linguistic consistency during transcription and translation. Each study site conducted ten interviews, ensuring a comprehensive data set from each location. Interviews were audio recorded to ensure that all relevant data was accurately captured, and each lasted approximately 45–60 min. Participants were interviewed in a private room of their choice and at their most convenient time.

## 2.6 Data management and analysis

The audio recordings of the interviews were transferred to a secure computer, ensuring that the data was backed up and protected with password security to prevent unauthorized access. Each recording was then carefully transcribed verbatim, while the transcripts in local languages were translated into English.

The transcripts were carefully and independently read by all authors, who developed the codes, subthemes, and themes that emerged from the data. The codes were iteratively reviewed and refined. All the authors discussed and agreed upon the developed codes; thus, a codebook was developed. Data were analyzed manually using a combination of deductive and inductive thematic analysis [25], guided by the HBM framework. Deductive codes were initially derived from the six constructs of the Health Belief Model, which formed a preliminary coding structure. During transcript review, inductive coding was applied to identify emerging concepts not fully captured by the initial framework, such as specific community myths or context-specific cues to action. For example, while “perceived barriers” was a deductive category, subcodes like “health worker endorsement of alcohol use” emerged inductively. All authors reviewed and refined the codebook iteratively to ensure internal validity and intercoder agreement.

## 2.7 Ethical considerations

This study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki and followed all applicable guidelines and regulatory requirements. The study was approved by the Gulu University Research Ethics Committee (GUREC-2024-984), and we also obtained administrative clearance from the district health officers and town clerks of Lira and Isingiro districts to conduct the study. All study participants

**Table 1** Participant sociodemographic characteristics

Characteristic	Category	Frequency (n)
Gender	Male	9
	Female	11
Age group	< 30 years	5
	30–60 years	13
	> 60 years	2
Religion	Christian	17
	Muslim	3
Education level	Primary	8
	Secondary	9
	Tertiary	3
Employment status	Self employed	16
	Formal employment	1
	Not employed	3

**Table 2** Themes and subthemes identified in the study

Theme	Subthemes
Perceived susceptibility and severity of alcohol related dementia	Awareness of alcohol as a dementia risk , Quantity-based risk perception, Behavioural and cognitive function impairment
Perceived barriers to reducing alcohol use	Peer and social influence, Health myths, Easy accessibility, and Habitual drinking patterns
Perceived benefits of knowing the link between alcohol use and the development of dementia	Behavioural change
Perceived self-efficacy to reduce alcohol use	The capability to reduce alcohol use
Cues to action to limit alcohol use and its health risks	Mass sensitization, Policies on alcohol

provided written informed consent. The participants' privacy was ensured by omitting identifiable information. Participants were assured of anonymity and informed that their participation was voluntary.

### 3 Results

#### 3.1 Participant socio-demographic characteristics

The number of male and female participants was 9 and 11, respectively. Their age ranged from 19 to 82 years, with an average age of 42.6 years. Of the participants, 17 were Christians and 3 were Muslims. Regarding the level of education, 9 participants had attained the secondary level of education (Table 1).

#### 3.2 Themes and subthemes

Guided by the HBM, we identified five key themes: (a) Perceived susceptibility and severity of alcohol related dementia, (b) Perceived barriers to reduce alcohol use, (c) Perceived benefits of knowing the link between alcohol and the development of dementia, (d) Perceived self-efficacy to reduce alcohol use, and (e) Cues to action to limit alcohol use and its health risks (Table 2).

##### 3.2.1 Theme 1a: perceived susceptibility to alcohol related dementia

Participants expressed varying levels of perceived vulnerability to developing dementia due to alcohol consumption. This susceptibility was expressed in terms of awareness of alcohol as a risk factor for dementia, and their beliefs regarding the role of drinking

quantity in increasing this risk. In contrast, severity was expressed in terms of cognitive and behavioural effects of alcohol.

**3.2.1.1 Awareness of alcohol as a dementia risk** Some participants demonstrated a clear understanding that alcohol consumption increases the risk of dementia due to its direct effect on the brain. These views reflect a recognition of personal vulnerability linked to drinking. One of the participants noted:

*"I know dementia is mostly caused as a result of taking alcohol..." (Female, 40 years, Northern region).*

However, others believed dementia primarily affects the elderly due to natural ageing, not alcohol use, thus reducing their perceived personal risk. A participant said:

*"My dad used not to drink alcohol, but when he reached the age of 70–80 years, he started forgetting. I think it was because of age." (Male, 56 years, Southwestern region).*

**3.2.1.2 Quantity-based risk perception** Some participants demonstrated an understanding that the risk of developing dementia is influenced by the amount of alcohol consumed, where individuals acknowledged that heavy drinking increases their vulnerability to cognitive impairment.

*"In my understanding, someone who drinks little cannot develop dementia..... but someone who overdrinks can develop dementia." (Male, 19 years, Northern region).*

### **3.2.2 Theme 1b: perceived severity of alcohol related dementia**

Participants expressed concerns about the serious consequences of alcohol use, particularly its detrimental effects on brain function and behaviour. These perceptions reflect a recognition of the potential long-term impact of alcohol on mental health, including the development of dementia.

**3.2.2.1 Behavioural and cognitive function impairment** Several participants highlighted profound worries about the impact of alcohol consumption, particularly its effects on behaviour and cognitive health. They acknowledged alcohol's role in impairing brain function and increasing the risk of dementia.

*"It can damage the brain. You find that your brain is no longer functioning properly..." (Female, 43 years, Southwestern region).*

### **3.2.3 Theme 2: perceived barriers to reducing alcohol use**

Regarding the perceived barriers to reduction of alcohol use, several subthemes emerged, which included: peer and social influences, health myths, habitual drinking patterns and the ease of access to alcohol. These barriers often outweighed the perceived susceptibility for many participants, hindering behaviour change.

**3.2.3.1 Peer and social influence** Most participants highlighted the significant impact of peers and social groups as a primary driving force behind their ongoing alcohol consump-

tion, which often overshadowed personal goals for moderation or abstinence. A participant said:

*“Group influence makes me drink too much. When I’m with others, I often say I’ll just have a little more before leaving, and before I know it, I’ve overdone it.” (Male, 24 years, Southwestern region).*

**3.2.3.2 Health myths** Some participants held the belief that alcohol could offer various health advantages, which in turn sustain alcohol use patterns. Some of the reported myths about the benefits of alcohol included stress relief, weight loss and protection against heart disease.

*“Some people drink to relieve stress, thinking that getting drunk will help them forget their troubles.” (Male, 19 years, Northern region).*

Additionally, a belief in alcohol’s health benefits for weight loss and other cardiac problems is common in the communities. A participant said:

*Alcohol is said to benefit heart health and lower blood pressure, and it may help overweight individuals lose weight.” (Male, 24 years, Southwestern region).*

On the contrary, some participants perceived no health benefits from alcohol consumption but rather perceived it as having harmful effects on some body organs.

*“Excessive drinking can lead to liver atrophy and lung damage.” (Female, 50 years, Southwestern region).*

**3.2.3.3 Easy accessibility** Participants highlighted that alcohol selling businesses are so common in their communities, which makes alcohol readily available to them. One participant narrated that:

*“Alcohol is becoming an issue! In our town, there are many bars!” (Female, 82 years-South-Western region).*

Additionally, locally distilled alcohol like waragi (a locally distilled gin) is cheap and affordable yet potent enough to stimulate the desired effect. One of the participants said:

*“Everyone drinks waragi because it’s cheap and easy to access.” (Male, 24 years, Southwestern region).*

**3.2.3.4 Habitual patterns of drinking** Participants shared a diverse array of alcohol consumption habits, revealing patterns of daily, occasional, and hidden drinking that highlight the influence of these habits on long-term alcohol use within their communities.

**3.2.3.5 Daily drinking** Participants described habitual alcohol drinking patterns in their communities. They said that some alcohol drinkers start their day with an alcoholic drink.

*“My brother starts his day with alcohol instead of tea.” (Male, 39 years, Northern region).*

**3.2.3.6 Occasional drinking** In contrast, some individuals reserve alcohol consumption for special occasions, indulging only during celebrations or significant events, and limiting their intake to these select moments. One participant narrated:

*“I took alcohol at a party in Kampala after the children suggested I drink it instead of just soda.” (Female, 54 years, Southwestern region).*

**3.2.3.7 Hidden drinking** Some participants described hidden drinking habits, where alcohol consumption is discreet and private. One of the participants explained:

*“My mother used to hide her alcohol consumption from us as kids. It was like porridge to us; we didn’t understand.” (Female, 54 years, Southwestern region).*

### **3.2.4 Theme 3: perceived benefits of knowing the link between alcohol use and the development of dementia**

Some participants believed that increased awareness of the connection between alcohol use and dementia could motivate individuals to change their drinking behaviours. However, a few thought that this awareness had less effect on the behavioural change concerning alcohol use.

**3.2.4.1 Behavioural change** Some participants felt that awareness of the link could lead to healthier decisions, helping to avoid brain damage caused by alcohol consumption. A participant narrated:

*“When you frequent alcohol use, you develop dementia...In my thinking, alcohol should not be taken or people should reduce alcohol use to avoid dementia.” (Male, 35 years, Northern region).*

On the other hand, a few participants believed awareness might only temporarily reduce drinking, questioning the long-term impact, indicating mixed perceptions of benefit. One of the participants stated:

*“No! Knowledge of the link between dementia and alcohol may only temporarily reduce drinking rates.” (Female, 21 years, Northern region).*

### **3.2.5 Theme 4: perceived self-efficacy to reduce alcohol use**

During the interviews, participants expressed varying levels of confidence in their ability to control or reduce alcohol consumption. While some recognized the difficulty of resisting social pressures and habitual drinking, others shared experiences of successful behaviour change, often triggered by personal or observed adverse outcomes.

**3.2.5.1 Capability to reduce alcohol use** Some participants acknowledged the challenges in maintaining control once drinking had started, particularly in social settings. This illustrates the internal conflict individuals face when trying to limit their alcohol intake. A participant narrated:

*“It’s easy to end up drinking more than you planned when a friend suggests another bottle.” (Male, 24 years, southwestern region).*

While some participants expressed difficulty in exercising control due to peer pressure or habitual use, others shared examples of how behavioural change was possible when the adverse outcomes became clear. A participant recounted a friend's experience:

*"I had a friend who used to overdrink to relieve stress, but he realized it was creating more problems, so he reduced his intake." (Female, 21 years, Northern region).*

### **3.2.6 Theme 5: cues to action to limit alcohol use and its health risks**

Participants suggested practical interventions to reduce alcohol use, including community education and policy enforcement. Mass sensitization efforts, such as health seminars and radio messages, were viewed as effective, particularly when they instilled concern about alcohol's cognitive effects. Others emphasized the role of external measures, like raising alcohol taxes and introducing local bylaws to regulate access and consumption. Despite these suggestions, a few participants doubted their effectiveness due to entrenched behaviours.

**3.2.6.1 Mass sensitization** Participants emphasized the significance of education on alcohol through health seminars and public messages about alcohol's risks, especially its link to dementia. These communications were effective, particularly when they instilled fear or concern about future health outcomes.

*"Organize seminars to raise awareness about the dangers of alcohol, such as its link to dementia, encouraging individuals to quit out of fear of these consequences." (Male, 24 years, Southwestern region).*

Although participants recommended increased sensitization about the dangers of alcohol use, some participants believe that raising awareness through sensitization is ineffective in changing people's drinking habits. One of the participants stated:

*"Some hesitate to take advice, saying, "How can a mere human stop me from drinking alcohol?" (Female, 62 years, Northern region).*

**3.2.6.2 Policies on alcohol** Some participants also suggested that increasing taxes on alcoholic beverages could make them less affordable and, in turn, discourage excessive use of alcohol. One participant explained:

*"A high tax on alcohol should be imposed to reduce consumption, making it more expensive and encouraging moderation." (Male, 39 years, Northern region).*

Other participants suggested external interventions, such as laws and regulations, as prompts to regulate alcohol consumption in the communities. A participant suggested:

*"The government and local leaders should create laws to regulate alcohol consumption and prohibit excessive drinking" (Male, 30 years, Northern region).*

## **4 Discussion**

This study qualitatively explored alcohol consumption and awareness of its link to dementia development among Ugandan adults. Key findings aligned with the constructs of the Health Belief Model (HBM): perceived susceptibility and severity, perceived barriers, perceived benefits, self-efficacy, and cues to action.

Participants expressed mixed perceptions about their susceptibility to alcohol-related dementia and the severity of its consequences. Some acknowledged alcohol's harmful neurological effects, consistent with studies linking excessive alcohol use to neurodegeneration and increased dementia risk [26]. Others viewed dementia primarily as a natural part of ageing, echoing misconceptions documented in previous Ugandan studies [14, 27]. This perception may reflect cultural interpretations of cognitive decline as inevitable in later life rather than as potentially preventable, a view that has been challenged by evidence demonstrating that dementia is not an inherent consequence of ageing but a condition influenced by modifiable risk factors such as alcohol use [28].

However, participants also demonstrated ambiguity regarding the relationship between the quantity of alcohol consumed and dementia risk. Some cited heavy drinking as dangerous, while others assumed moderate or occasional drinking posed little threat. This finding reflects ongoing debate in the literature. While specific studies suggest light-to-moderate alcohol consumption may offer neuroprotective benefits compared to abstinence or heavy use [7, 9, 10], others using Mendelian randomization and extensive cohort data argue that no level of alcohol is safe for brain health [11, 29, 30]. These contradictions underscore the need for nuanced public messaging that emphasizes the cumulative cognitive risks of alcohol, even at lower levels of use.

Barriers to reducing alcohol use were both structural and sociocultural. Peer pressure, health myths (e.g., alcohol as a stress reliever or heart tonic), and easy access to cheap alcohol, such as waragi, were commonly cited. These findings are consistent with prior studies in Uganda and other LMICs where alcohol is socially embedded and its harms are poorly understood [31–33]. Some participants also mentioned misinformation from influential sources, such as radio presenters or community figures, which further reinforces inaccurate beliefs about alcohol's benefits. Correcting these myths will require culturally tailored, multilevel strategies that integrate accurate, evidence-based information.

Low self-efficacy among participants highlights the gap between knowledge and action. Despite recognizing the health risks of alcohol, many struggled to regulate consumption due to addiction, peer influence, or ingrained drinking patterns. Enhancing self-efficacy through targeted interventions, such as peer-led support groups, motivational interviewing, or showcasing success stories from recovered drinkers, may help bridge this intention-behaviour gap. Programs designed to build personal agency and coping skills could empower individuals to make healthier choices.

Participants identified several cues to action, including the need for community sensitization, increased taxation, and stronger alcohol control laws. These suggestions align with global best practices for alcohol harm reduction [6, 34]. However, these interventions should be grounded in local realities to ensure effectiveness. For example, leveraging community health workers and village health teams could facilitate localized education sessions in regional languages, dispel myths, and support behaviour change. Youth-focused initiatives such as school-based programs, mentorship, and peer education campaigns could be particularly impactful, given early initiation into drinking in many communities [21].

While some participants were skeptical about the impact of education or legal reforms, these views reflect the need for sustained, multifaceted approaches. One-off awareness campaigns may have limited impact unless paired with ongoing community

engagement, regulatory enforcement, and accessible alternatives to alcohol use (e.g., recreational activities, mental health support).

This study adds to the limited literature on alcohol-related dementia awareness in sub-Saharan Africa and highlights critical points for public health action. Mapping findings to the HBM, it offers a theoretically grounded understanding of the cognitive, social, and structural influences on alcohol use behaviours in rural Ugandan contexts.

#### 4.1 Strengths and limitations of the study

However, our study has several limitations. The findings may not be generalizable to urban populations or individuals with higher educational attainment, who may hold different beliefs and levels of awareness regarding alcohol and dementia. Additionally, the use of local languages during interviews and subsequent translation into English may have influenced the interpretation of meaning, as some cultural nuances or idiomatic expressions may have been lost in translation. Finally, the positionality of the interviewers, such as their educational background, language proficiency, or perceived authority, may have influenced participant responses, especially in settings where alcohol use is a sensitive or stigmatized topic.

Despite these limitations, we applied Lincoln and Guba's principles to ensure trustworthiness [35]. Credibility was strengthened through trained interviewers, prolonged field engagement, and regular debriefings. Transferability was supported by providing detailed descriptions of the study context, participant characteristics, and data collection procedures so readers can judge applicability to other settings. Dependability was ensured by maintaining an audit trail of study procedures and interview guides. Confirmability was achieved through team-based analysis, which minimized researcher bias and maintained a clear link between the data and interpretations.

## 5 Conclusions

Awareness of the link between alcohol consumption and the development of dementia was suboptimal, with some participants demonstrating awareness while others were unaware of the connection. Nearly all participants associated dementia with the normal ageing process, often correlating it with forgetfulness and cognitive decline. While some recognized the cognitive risks of alcohol and showed motivation to change, others faced persistent barriers, including peer pressure, health myths, and low self-regulation.

We recommend culturally tailored education and awareness campaigns to improve understanding of the link between alcohol use and dementia in rural Uganda, using trusted community structures and influencers. Future research should evaluate the effectiveness of community- or peer-led interventions and use longitudinal studies to assess their impact on knowledge, attitudes, behaviours, and dementia outcomes in low-resource settings.

#### Abbreviations

DHO	District Health Officer
IDI	In-depth interviews
HBM	Health Belief Model
LMICs	Low- and Middle-income countries
MOH	Ministry of Health
SSA	Sub-Saharan Africa
UBOS	Uganda Bureau of Statistics
WHO	World Health Organization

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### Author contributions

AM, TM, PM, DA, EKW and SM participated in conceptualization and proposal development. AM, TM, PM, MS, and DA participated in data collection. PM, DA, MS, GZR, CO, EKW and SM participated in data analysis and manuscript development. EW, SM, GZR, and CO reviewed the final manuscript.

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### Data availability

The data materials for this study will be made available upon reasonable request.

### Declarations

#### Ethics approval and consent to participate

The study was approved by the Gulu University Research Ethics Committee (GUREC-2024-984), and we also obtained administrative clearance to conduct the study from the District Health Officers and Town clerks of Lira and Isingiro districts. All study participants provided written informed consent. The participants' privacy was ensured by omitting identifiable information. Participants were assured of their anonymity and informed that their participation was entirely voluntary.

#### Consent for publication

Not applicable.

#### Competing interests

The authors declare no competing interests.

#### Author details

<sup>1</sup>Department of Community Health, Faculty of Medicine, Mbarara University of Science and Technology, P.O. Box 1410, Mbarara City, Uganda

<sup>2</sup>Department of Nursing, Faculty of Medicine, Mbarara University of Science and Technology, P.O. Box 1410, Mbarara City, Uganda

<sup>3</sup>Department of Midwifery, Faculty of Nursing and Midwifery, Lira University, P.O. Box 1035, Lira City, Uganda

<sup>4</sup>Department of Psychiatry, Faculty of Medicine, Mbarara University of Science and Technology, P.O. Box 1410, Mbarara City, Uganda

<sup>5</sup>Vice Chancellor's Office, Mbarara University of Science and Technology, P.O. Box 1410, Mbarara City, Uganda

<sup>6</sup>Department of Medical Education and Center for Brain and Behavioral Health, California University of Science and Medicine, Colton, CA, United States of America

<sup>7</sup>Department of Psychiatry and Behavioral Neurosciences, McMaster University, Hamilton, ON, Canada

<sup>8</sup>Department of Governance and Planning, Faculty of Interdisciplinary Studies, Mbarara University of Science and Technology, P.O. Box 1410, Mbarara City, Uganda

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