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Original Article

Implications of alcohol consumption on adherence to antiretroviral therapy: Perceptions of older people living with HIV in South-western Uganda.

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Abstract

Background

Alcohol consumption is associated with reduced ART adherence, poor quality of life, and worse treatment outcomes among people living with HIV. Though ART adherence levels in the older population globally have been reported to be high, they may be affected by increased levels of alcohol consumption in this population in lower and middle-income countries. We explored the implications of alcohol consumption on adherence to antiretroviral therapy in older persons living with HIV in Southwestern Uganda.

Methods

An explanatory qualitative study design was employed among 38 purposively selected older persons living with HIV in 6 health facilities in Southwestern Uganda. A total of 6 focus group discussions were held and audio recorded at the selected Health Facilities. Data was transcribed, translated, coded, and categorized into themes. Thematic analysis was used to give meaning to the data collected.

Results

Participants' reports varied, with some finding alcohol beneficial in terms of providing nutrients, especially from the brands made locally. Others reported that alcohol increases sexual libido and relieves their stress. Many, however, reported that alcohol affects adherence to ART as it increases forgetfulness of the time specified for swallowing the drugs.

Conclusion

Older people perceived alcohol consumption as a hindrance to adherence. Negative perceptions, such as alcohol having nutrients or increasing sexual libido, present difficulties in reducing the consumption of alcohol, especially in older people living with HIV.

Recommendation

There is a need for the incorporation of counseling on the effects of alcohol in the care patients receive from HIV care facilities.

Keywords: Alcohol consumption, Adherence, ART, Older people, HIV

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Introduction

Globally, about 2.3 billion people drink alcohol. Uganda has a heavy episodic drinking prevalence of 56.9% for the age group of 15 years and above (World Health Organization, 2019). It was estimated that by 2015 globally more than 47% of people living with HIV (PLWH) were 50 years and above, and this may be seen to increase by 2% annually (Centers for Disease Control and Prevention HIV Surveillance Report, 2017). Over 2 million of the 4.2 million people aged 50 years and above living with HIV are found Sub-Saharan Africa. Adherence to ART is key to improving the quality of life among PLWH. Several factors, including alcohol use and abuse, poor standards of living, poverty, and food insecurities, have been associated with poor adherence to ART among PLWH (UNAIDS, 2014). Alcohol consumption has been associated with reduced adherence to ART. In addition, alcohol has detrimental effects such as lowered CD4 count, increased progression of the disease, non-viral load suppression, and possible resistance to ART. (Sileo et al., 2019)

A study on populations at risk for alcohol use found that PLWH were two – four times more likely to use alcohol than the general population (Park, Hernández-Ramírez, Silverberg, Crothers, & Dubrow, 2016). Higher rates of substance abuse have been observed in older people living with HIV (OPLWH) than their HIV negative peers, which could reduce adherence to ART and increase morbidity in this age group (Deren et al., 2019).

Unhealthy alcohol use is seen to be a crucial driver of HIV, especially in sub-Saharan Africa (SSA) (Emenyonu et al., 2017) and particularly in Uganda, where older men were observed to have very high alcohol use disorder identification test (AUDIT) scores compared to younger men (Nalwadda et al., 2018)..

Southwestern Uganda has a 6.3% prevalence of HIV, as with older adults 50 years and above at 13.6% (U. Ministry of Health, 2022). While the prevalence of other age groups has been reported to have reduced over time, the prevalence of older people has been reported to remain constant. It's reported that 60% of Ugandans take alcohol, with 56.3% engaging in heavy episodic drinking (Asiimwe et al., 2022). The prevalence of 65.8% of PLWH participating in unhealthy alcohol use in South-western Uganda, coupled with the cultural and social acceptability of drinking alcohol, poses a great hindrance to the reduction in consumption in

the elderly (Asiimwe et al., 2022; Ssebunnya et al., 2020). The possibility of the elderly using alcohol without knowing its actual implications for adherence is high. This study sought to explore the implications of alcohol consumption on adherence to antiretroviral therapy in older people living with HIV.

METHODS

Study design and setting

An explanatory qualitative study design was employed for this study. Data was collected in July and August 2020.

The data were collected from 6 primary health facilities in South-western Uganda, namely Kinoni Health Centre IV and Bugamba HC IV in Rwampara district, Bwizibwera HC IV in Mbarara district, Bushenyi HC IV in Bushenyi district, Kabwohe HC IV, and Shuuku HC IV in Sheema district. A health centre IV is a public health facility offering outpatient and inpatient care, maternity and family planning, HIV care services, among others (Ministry of Health, 2018)

Study population

The study population was older persons (≥ 50 years) living with HIV enrolled in ART care services in 6 primary health facilities. The study only involved people who had spent at least 6 months on ART and consented to the study. All older persons who were eligible but were unavailable on the day of the interviews were excluded from the study.

Sample size estimation and sampling

A total of 6 focus groups comprising 38 participants were conducted (an average of 6 participants per group). Potential study participants were purposively selected and consented to participate in the focus group discussions from the ART clinic in the selected Health facilities.

Data collection procedure

Data was collected using a semi-structured focus group discussion guide developed using information from previous studies. Focus group discussions were selected for the study because the phenomenon of alcohol use is



considered a social event acceptable in traditional African society, especially for the elderly (Ssebunnya et al., 2020). The questions in the guide were open-ended and translated into Runyankole, the local language understood by the participants. The focus group discussion guide was pretested and adjusted with minor changes to the probing questions. Questions ranging from whether the participants consumed alcohol to their perception as to whether alcohol has an effect on their lives in general, the drugs they consume, and their consistency or adherence to ART were discussed in the groups. Each discussion lasted 60 minutes. Audio recorders and notebooks were also used to capture responses from participants.

The participants consented and were subjected to a focus group discussion in the designated waiting area of the health facilities after they had received their ART clinic services. The voices of participants in the focus group discussion were recorded and backed up by the field notes taken during the discussion. The voice recordings were stored on an external storage device only available to the research team members.

Data management and analysis

Data management

The Focus Group discussion guide was tested for accuracy, and questions that were redundant or repeated were eliminated after the first focus group discussion. Records of the discussion were made using two recording devices to provide backup for the interviews. Field notes were recorded for every focus group discussion as backup information to support the recording. The notes were labeled and dated according to the health center where it was carried out, and the day when they were carried out. Details of the respondents in terms of gender were included in the notes.

Both recordings and the field notes were stored safely for further reference and analysis.

Three of the team members listened carefully to the recordings and translated the recordings to English. The translations were then reviewed by the team, and responses that were similar in meaning or implication were given codes and grouped to generate the sub-themes and themes of the study.

Ethics approval

The Mbarara University of Science and Technology Research Ethics Committee reviewed and approved the proposal (MUREC-27/01-20). Regulatory approval was obtained from the Uganda National Council of Science and Technology, UNCST, Ref: RESCLEAR/01. Administrative clearance was obtained from the District Health Officers of respective districts, and informed consent was obtained from each participant. Written informed consent was sought from all the participants.

Results

Socio-demographic characteristics of participants

A total of 6 focus group discussions with up to 38 participants were conducted. Slightly over half of the participants were males (19/38), the age range was 50-74 years, with the majority were subsistence farmers (31/38). Other occupations were building, bricklaying, business, security guard, teaching, and motorcycle riding. 10/38 of the participants reported being consumers of alcohol.

Themes

The responses from the discussions were coded and categorized into the themes below;

Theme	Sub themes	Code
Drinking pattern and motivation for drinking	Frequency of alcohol consumption Peer influence	Daily consumption Limitless consumption Drinking with peers
Alcohol is beneficial	Alcohol has nutrients Alcohol relieves stress Alcohol improves sexual libido	Nutritional Relieves Improves/enhances
Alcohol is harmful	Predisposes to disease	Negative effect



	Affects the virulence of HIV Disgraces one socially	
Alcohol reduces the effectiveness of ART.	Effect on the strength of ART Effect on the duration of ART in the blood	Negative effects of alcohol on ART
Alcohol affects Adherence to ART.	Forgetting to take pills Too tired to take pills	Negative effect on ART adherence

Theme one: Drinking pattern and motivation for drinking

Some of the participants who consumed alcohol reported consuming it every day. Respondents reported taking alcohol mostly during evening hours. Some found it easier and cheaper to consume alcohol with their peers. One of the participants admitted to having no limit to the quantity of alcohol consumed.

"I drink every day, I start at 5:00 pm and stop at 7:30 pm, I consume only 2 bottles of tonto (local manufactured brew)" fgdl p5 male.

"When I reach in my boys, we drink alcohol, and I go home when I am drunk, it's like, I don't have any standard limit that I drink up to this level. Boys buy me a glass, they put in another one, I go when I'm drunk, even sometimes I fail to eat, I just sleep". Fgd3 p5male

Theme two: alcohol is beneficial

A few of the participants reported that alcohol was beneficial and its benefits ranged from nutritional to an increase in libido and sexual potency, social networking, and stress relief.

"Tonto (local alcoholic drink) has some nutrients, so it is okay to drink." Fgd1 C4 female

"To get relieved from loneliness and stress from people, not to be overwhelmed by stress." Fgd5 C2 male

"After consuming some alcohol, I feel in my life I should be with a lady." Fgd1 C5 male

"If it's not much, it gives motivation in work and increases man-power," Fgd1 C2 male.

"So me what entices me to drink alcohol? In fact me I grew up in a miserable state. I lost my wives, and so I say to myself," I no longer have a wife, why don't I drink alcohol such that I can get sleep?" Fgd 3P.1 male

Theme three: Alcohol is harmful

Participants reported that alcohol was harmful in various ways, ranging from causing diseases of the liver, cancer, social disgrace, and increasing the virulence of HIV.

"I think alcohol makes the virus increase and weaken the body. Because they tell us the drugs they give us make the virus sleep, but if you consume alcohol, the virus wakes up and moves so fast." Fgd6 p3 female

"Alcohol can also cause someone other diseases in addition to what you are suffering from. It can cause cancer. It can also destroy your liver," Fgd1 C5 male.

"The brain feels as if it is damaged, and you find you are like a mad person." Fgd3 P4 female

"Alcohol consumption leads to spending almost all the money, yet when on ART medication, you need to eat well and drink enough soft drinks, but much attention is taken by alcohol, leading to the virus weakening you." Fgd1 C5 male

"Alcohol consumption can lead to wrong judgment resulting in fights and being imprisoned; moreover, prison conditions are bad, not favoring someone on ART medication, and life becomes bad." Fgd1 C5 male

Theme four: alcohol reduces the effectiveness of ART

Participants mentioned that alcohol has a great effect on the ART that they consume. The common effects mentioned were that alcohol destroys the drugs by reducing their strength and the duration for which they should take effect in the blood system.

"That medicine no longer has any good effect in your body because the alcohol spoils the drugs," Fgd4 p3 male

"When you drink alcohol and take medication, that alcohol extends the time during which the medicine would have started working." fgdl C5 male



"Alcohol reduces your life when you are taking ART medication, and it even reduces the strength of the medication." fgd2 c6 female.

Theme Five: alcohol affects adherence to ART

A few of the participants mentioned that consumption of alcohol in any way affects one's ability to adhere to their Anti-Retroviral Treatment. They reported that while under the influence of alcohol, one would forget to take the pills, and another would end up vomiting the pills.

"Sometimes when I get drunk or delay, I find that I have forgotten to take my medicine. That is why I asked that they put me on the morning drugs." fgd 3 p5 male

"Eeeh!!!, if you get used to drinking, alcohol can make you fail to take medicine on time." Fgd5 C1 male

"Yes, when you consume excess, your mind gets tired and even forgets the time of the day and when to take medications." Fgd2 Client 0204 male

Theme six: alcohol consumption, when regulated, does not affect adherence to ART

A few of the participants who consumed alcohol reported that alcohol had in no way affected their ability to adhere to ART.

"When I am going to drink, I calculate the time I am going to take my medication. Then I start drinking around 7 pm and stop at 8 pm. I take my medication at 9 pm. At around 8:30 pm, I go home, cook, eat, and take medicine." Fgd2 C4 male

"I can't forget to take my drugs, because I don't get drunk, I take my medication in the morning and alcohol in the evening." Fgd1 Client 5 male

Discussion

Motivation for consuming alcohol

The study found that the main reason for the consumption of alcohol was to relieve stress and forget troubles. This can be explained by the fact that alcohol has been reported to give a temporary sense of Euphoria (happiness), which in the long run makes one forget their troubles (Altura, Burton M et al., 2016). This finding is similar to other studies that reported 50-69 year olds as more likely to be medium –high

end users of alcohol than the younger generation due to social acceptance of alcohol use, unemployment, traumatic events, and stress in the older people (Kabwama et al., 2016; Popovici & French, 2013; World Health Organization, 2019).

Peer influence is a great motivator and driver for alcohol consumption, and this study was no exception. The participants consumed more at bars in the company of friends than at home, where they were lonely. Studies have shown that older people have poor coping mechanisms, especially after having many traumatic events like the deaths of spouses and loved ones. They tend to consume a lot of alcohol and yearn for company to relieve the effects of being alone (Emiliussen, Andersen, & Nielsen, 2017).

Alcohol is beneficial

Several myths and beliefs among the participants seemed to be drivers for the continual consumption of alcohol. Beliefs like alcohol having nutrients that are important to the body, an increase in libido and male potency, 'Manpower', which is contrary to the well-known effect of alcohol on the body. Studies have shown that moderate amounts of alcohol may increase libido and arousal, but chronic use of alcohol leads to a depressive effect on the sexual axis of the brain. It reduces libido, decreases potency, and is more likely to cause infertility due to a reduction of testosterone (Fernandes & De Sousa, 2014). Coupled with the reduction of libido due to old age, the consumption of alcohol may not be easily controlled in a world where male efficiency, even at old age, is measured by sexual and procreation ability in rural Uganda.

Alcohol is harmful

Though many of the participants, both consumers and non-consumers of alcohol, reported that alcohol is harmful, their understanding of how it directly affects the effectiveness of ART was lacking, especially in terms of the damage it causes. Some of them had the idea that it actually delays the drug's time for action, and others even went ahead and mentioned that its acid makes the drug inactive. There was a nonscientific but layman's understanding of the effect of alcohol on ART. This finding is supported by another study, which reported that substances including alcohol can reduce the effectiveness of ART, especially Protease Inhibitors and Non-Nucleotide Transferase Inhibitors, because of their



interactions with alcohol that cause alcohol mediated toxicity and other adverse effects (Deren et al., 2019; Kumar et al., 2012).

Alcohol consumption and ART adherence in OPLWH

The majority of the participants in this study reported good adherence to ART. This can be explained by the fact that the majority of the older people have had a longer time on ART compared to the younger generation, and therefore can adapt favorably to the daily routine of taking their doses. This finding could also be attributed to the fact that many of the participants did not consume alcohol, so would not forget taking their medication (UNAIDS). 2014; Deren et al., 2019)

We also found that some of the participants who consumed alcohol missed their doses. Some participants reported forgetting to take their drugs after consuming alcohol. This can be explained by the physiological changes in cognition that come with age, but alcohol consumed in large amounts has also been reported to have negative effects on neurocognitive functions, especially in people living with HIV (Kekwaletswe & Morojele, 2014; Kohli et al., 2020; World Health Organization, 2001).

Limitations

Interviewer bias was a possible limitation, but it was mitigated by directly following the probing questions in the interview guide and seeking clarity from participants if the responses were not clearly understood.

Using FGDs independently as a method could have limited the participants' disclosure of alcohol consumption and its effects. However, the effect of this observation did not impact our findings since alcohol consumption is a social event in Uganda. Additionally, during the group discussion, individuals freely shared their views, and this was further encouraged as we put people with similar characteristics, such as age, in the same group.

Conclusion

Older people perceived alcohol as detrimental to ART effectiveness and to Adherence. Motivation for taking alcohol still stands as a hindrance to influencing alcohol drinkers into reducing or abstaining from taking Alcohol.

Several myths related to the effect of alcohol on ART exist, but the scientific truth in its simplest form is not known to OPLWH.

Recommendations

- There is a need for the incorporation of counseling on the effects of alcohol in the care patients receive from HIV care facilities.
- There is a need for intentional formulation of psychological support groups for the older people living with HIV, whose company can replace time spent bored and lonely as a means to reduce the need to drink alcohol.
- This study recommends elaborate research concerning facilitators for continual high-risk alcohol consumption in OPLWH, especially in rural Uganda.
- The understanding of how ART functions in the body and the direct effect of alcohol should be fully emphasized in the counseling sessions.

List of abbreviations

PLWH - People living with HIV

OPLWH- Older people living with HIV

ART- Anti-retroviral therapy

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Conflict of interest

The authors declare no conflict of interest.

Data availability

All the data is to be provided as supplementary material in the submission.

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