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“You cannot travel one hundred metres without finding such alcohol”: community perspectives on the availability of alternative alcohol products since the ban of alcohol sachets in Malawi and Uganda

Isabelle Uny

isabelle.uny@stir.ac.uk

University of Stirling

Paskari Odoi

Makerere University School of Public Health

Cissie Namanda

Makerere University School of Public Health

Robyn Burton

University of Stirling

Denview Magalasi

University of Malawi

Marsha Orgill

University of Cape Town

Charles Parry

South African Medical Research Council

Benjamin Kaneka

University of Malawi

Nazarius Mbona Tumwesigye

Makerere University School of Public Health

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"You cannot travel one hundred metres without finding such alcohol": community perspectives on the availability of alternative alcohol products since the ban of alcohol sachets in Malawi and Uganda

Isabelle Uny[1], Paskari Odoi[2], Cissie Namanda[2], Robyn Burton[1], Denview Magalasi[3], Marsha Orgill[4], Charles Parry[5,6], Benjamin Kaneka[3], Nazarius Mbona Tumwesigye[2]

[1] *Institute for Social Marketing and Health, Faculty of Health Sciences and Sport, University of Stirling, Stirling, Scotland, UK.*

[2] *Makerere University School of Public Health, Uganda*.

[3] *Department of Sociology and Population Studies, University of Malawi, Malawi.*

[4] *Children's Institute, University of Cape Town, South Africa*.

[5] *South African Medical Research Council, South Africa.*

[6] *Department of Psychiatry, Stellenbosch University.*

Corresponding author: Isabelle Uny, Isabelle.uny@stir.ac.uk

Abstract

Background: Malawi and Uganda banned alcohol sachets in 2017 and 2019 respectively, to reduce alcohol availability and affordability and protect population health, particularly young people and the most vulnerable. However, the unintended consequences of those bans, particularly the use of alternative alcoholic products, is under-researched.

Methods: This qualitative study draws on 18 community focus group discussions conducted across both countries (nine per country; n=159) between 2023 and 2024, in the districts of Wakiso and Gulu (Uganda), and Blantyre and Zomba (Malawi). Participants included adult men and women, in- and out-of-school young males and females, traditional leaders, teachers, and health workers. Data were analysed thematically.

Results: While participants considered the sachet bans effective, they perceived this effectiveness as temporary. All groups, from both countries, confirmed alternative products, which seem to be both newly emerging substitutes and existing products used as replacements. These included small bottles of recorded high-strength spirits (≤220ml) and unrecorded homebrews, sold by variable measures according to demand and purchasing power. Affordability of these products was mentioned in most groups. Community members expressed that these substitute products are widely available and sometimes sold without age verification. In both countries, this was viewed as leading to increased consumption and harm.

Conclusion: Sachet bans in Malawi and Uganda produced significant changes in the alcohol market rather than meaningful reductions in alcohol availability. Without understanding the market more fully and comprehensive legislation, banning a single product (such as sachets) is unlikely help to protect public health in the longer term.

Key words: alcohol sachet ban, alcohol policy, Africa, unrecorded alcohol, alcohol harm, Malawi, Uganda, recorded alcohol.

Introduction

Globally, around 2.6 million deaths are attributable to alcohol consumption. Moreover, alcohol contributes to injuries, road traffic collisions, violence, and a wide range of non-communicable diseases, including cancers, diabetes, and cardiovascular disease [1]. Alcohol-related harm also places substantial pressure on healthcare systems and impacts on wider society. Estimates from high-income countries suggest that the economic cost of alcohol-related harm may account for between 1.4% and 2.7% of annual GDP [2].

The World Health Organization African Region experiences a disproportionate burden of alcohol-related harm, with an estimated 52 alcohol-attributable deaths per 100,000 population per year, compared with a global average of 32 [1]. This reflects a distinct pattern seen across many African countries: although a smaller proportion of the population drinks alcohol, those who do are more likely to drink heavily and experience alcohol-related harm [3]. Between 2010 and 2019, both per capita alcohol consumption and heavy episodic drinking remained stable or increased across much of sub-Saharan Africa, with considerable variation between countries [4]. Adolescent alcohol consumption in Africa is also high and appears to be increasing in some settings [5–11].

Rising alcohol consumption in parts of Africa has been linked to increased availability and affordability of alcohol, greater normalisation of drinking, and broader economic changes [12–15]. Increased alcohol marketing and pricing strategies contribute to greater alcohol availability and consumption, particularly amongst young people [6,12,16–22]. This may have important public health implications if availability is not restricted, particularly given that around 70% of the sub-Saharan African population is under 30 years old [23,24].

The availability picture in sub-Saharan Africa is further complicated by the high prevalence of unrecorded alcohol. Unrecorded alcohol refers to alcohol that is produced, distributed, or sold outside formal systems of regulation and taxation [25]. This includes homebrewed or informally produced alcohol, counterfeit alcohol, surrogate alcohol not intended for human consumption, and cross-border purchased or smuggled alcohol. The World Health Organization estimates that unrecorded alcohol accounts for around 21% of global alcohol consumption, and 35% in Africa [25]. Malawi and Uganda, the two countries examined in this paper, have particularly high levels of unrecorded alcohol consumption, with an estimated 43% and 39% of alcohol consumption respectively coming from unrecorded sources, much of which consists of homebrewed products [26].

In response to concerns about alcohol-related harm, to curb availability and to protect young and vulnerable populations, the Malawi and Uganda governments introduced bans on alcohol sachets in 2017 and in 2019 respectively [27,28]. Alcohol sachets are small plastic pouches (mainly up to 200ml) which contain high-strength alcohol (usually around 40% alcohol volume, such as gin, whisky). They had become widely available and highly affordable, particularly among young and economically disadvantaged populations and had been linked to heavy drinking, alcohol-related harms, and risky sexual behaviours [27–33].

In Malawi, the 2017 National Alcohol Policy stated a ban on the sale of *"liquor in plastic or polythene sachets",* with authorised packaging and quantities restricted to *"clear beer (glass bottle/aluminium*

330ml); spirits (glass bottle 200ml); *traditional beer (cardboard box 250ml); liquor (glass bottle 200ml); cider and alcopops (glass bottle 300ml)*" [34,35]. In Uganda, the 2019 National Alcohol Control Policy "*ban[s] the sale of alcohol in sachets and small packages setting lowest volume to be not less than 250ml (for spirits), 750ml for wines and 330ml for beer*" [36]. In Uganda enforcement was led by the Ministry of Trade and Industry and the Uganda Bureau of Standards, the Revenue Authority, the Police and Local Government officials [37]. In Malawi, it was led by the Malawi Bureau of standards, in co-operation with the police, and local district authorities [27]. The alcohol industry was not involved in implementing the policy in either country.

However, little is known about how communities experienced sachet bans, perceived their effectiveness, and describe the use of alternative products consumed following the bans. We found only two studies: Smart et al.'s observational study of only 100 alcohol venues in two Ugandan districts, conducted soon after the 2019 ban, which showed a significant reduction in sachet availability in off-premises outlets where they had been primarily sold [28]. And in Malawi, in a small qualitative study, conducted shortly after the 2017 sachet ban, Salimu et al. pointed to the early emergence of alcohol purchased by sellers in large bottles, with alcohol resold in smaller quantities to demand to consumers; they expressed this may make alcohol more available and accessible, particularly among young people [31].

This qualitative paper reports findings from a qualitative comparative case study called *"Regulating alcohol packaging and supply to protect health in Sub-Saharan Africa: evidence from policy systems in Malawi and Uganda – RAPSSA"*. In two other papers (one per country), we extensively described the rationale, formulation and operationalisation of the bans [27,37]. This third paper focuses on the period following the alcohol sachet bans and aimed to qualitatively explore community perceptions of the bans' effectiveness, of replacement products and of any unintended consequences of the bans.

Methods

To increase the methodological transparency, we have added a COREQ (Consolidated Criteria for Reporting Qualitative Research) checklist as **Supplementary Table 1** [38]. We conducted 18 focus group discussions in Malawi (n=9) and Uganda (n=9), with a total of 159 participants. In Malawi, discussion groups were conducted between December 2023 and May 2024 in Blantyre and Zomba (southern region). In Uganda, they were conducted between January and July 2024 in the Wakiso and Gulu Districts (central and Northern Uganda). The sites were selected to capture varied urban, peri-urban, and rural experiences. The focus group characteristics are presented in **Table 1**.

Table 1. Focus group characteristics

Unique identifier	Group Type/Gender	Number of participants	Location type
MALAWI			
MG1-AF	Adult females	10	Peri-urban
MG2-AM	Adult males	10	Urban
MG3-YFIS	In-school young females	10	Urban
MG4-YMIS	In-school young males	10	Peri-Urban
MG5-YFOS	Out-of-school young females	10	Urban
MG6-YMOS	Out-of-school young males	10	Urban
MG7-Traditional Chiefs	Traditional Chiefs (mixed gender)	6	Urban
MG8-Teachers	Teachers (mixed gender)	10	Urban
MG9-HSAs	Health Surveillance Assistants (mixed gender)	10	Peri-Urban
UGANDA			
UG1-AM	Adult males	10	Urban
UG2-YFOS	Out-of-school young females	8	Urban
UG3-YMOS	Out-of-school young males	8	Rural
UG4-AF	Adult females	8	Rural
UG5-HW	Health workers (mixed gender)	8	Rural
UG6-Traditional Chiefs	Traditional Chiefs (mixed genders)	8	Rural
UG7-YFIS	In-school young females	8	Rural
UG8-YMIS	In-school young males	8	Urban
UG9-Teachers	Teachers (mixed gender)	7	Urban
Total		**159**	

Ethical approvals for this study were obtained from the University of Stirling (8077), the University of Malawi (P.03/23/221), Makerere University School of Public Health in Uganda (SPH-2023-394), and the Uganda National Council of Science and Technology (HS3130ES).

Recruitment and data collection

Recruitment method and criteria

In both countries, community engagement began with community entry meetings with district and traditional authorities, a customary research practice which forms part of ethical community engagement in both countries [39,40]. At those meetings we introduced the study, provided information, and invited

community members to come forward if interested in taking part. **Table 2** presents the recruitment methods for each type of participant in each country.

Table 2. Inclusion criteria and recruitment method

Written informed consent was obtained from all participants ≥18 (for those aged 16-18, parental consent and participant assent were obtained). All participants received compensation to cover their expenses to in line with each country's ethical requirements.

Across both countries, we aimed for a random purposive sample of different community participant types to allow for triangulated views [41]: adult men and women, in-school and out-of-school young people of both sexes, traditional chiefs, teachers, and health workers. In Malawi, the health workers were Health Surveillance Assistants (HSAs), the lowest cadre of health facility personnel, who undertake health surveillance and live in the communities where they work, making them well-attuned to community behaviours. Chiefs and village headpersons also took part, as they play a significant role in local governance, surveillance, community mobilisation and policy dissemination [27,37,42]. Teachers were included given their direct experience of young people's drinking behaviours around schools. Given that part of the rationale for banning sachets was to reduce availability and consumption among young people [27,30,31,43], we decided to conduct four groups with young people in each country. None of the researcher had any relationship with participants prior to the study.

Group discussions were conducted in Malawi by DM and BK (both males), and in Uganda by CN (female) and NMT (male). DM and CN are early career researchers, and were further trained throughout the project by IU, an expert qualitative researcher and social scientist with nearly 20 years qualitative research experience in Africa. DM and CN were supported by BK who is a Senior Lecturer and NMT, who is a professor, both with significant experience in the conduct of focus groups and alcohol research. All four are public health researchers and were fully cognisant of their positionality, but also maintained reflexivity throughout, via regular meetings with the rest of the team.

The focus group discussions were conducted in pre-arranged, confidential venues, convenient and acceptable to all participants, an important consideration given that alcohol can be a sensitive topic [27,44]. For community male and female groups, we used single-sex groups to promote open, comfortable, and in-depth discussion, while mixed-gender groups were used for health workers, chiefs and teachers (which is culturally acceptable). The first two groups in each country served as pilot, after which the team met with IU to discuss any amendments to the topic guide, before conducting seven more. DM and CN created an excel spreadsheet to note their own impressions and key points immediately after each group. In Malawi, the focus group discussions length averaged 66 minutes, while in Uganda they averaged 109 minutes. In Malawi, they were conducted in Chichewa, the local language; in Uganda, discussions were conducted in Luganda and Acholi. Transcripts were translated verbatim from the local language audio to written English by translators fully fluent in both languages and checked for accuracy by DM and CN (also fluent in both). All focus group discussions were transcribed and anonymised prior to analysis. All quotations provided have been back checked for accuracy against the original audio.

A semi-structured topic guide was used in both countries, covering the following domains:

a) understanding, knowledge and experiences of alcohol sachets and similar products in the past;
b) knowledge and experience of the sachets ban and perceptions of its enforcement
c) perceptions of any alternative or replacement products consumed by people in the community following the sachet ban and any views on changes in products available, their price, and places of sale, as well as perceptions of positive or negative impacts of those changes;
d) views on actions and policies that could reduce alcohol consumption and protect population health.

Since the data collection was undertaken seven years after the ban in Malawi and six years post-ban in Uganda, we did not expect young people focus groups to have much knowledge of topic guide section (a). In the groups the young people explained that they had heard of sachets, and knew of the ban, but most had never seen sachets in their communities. For all other adult type participants, most had clear recollections and experiences of sachet consumption, remembered the bans clearly, and their enforcement. As we described in our other published papers, this is probably due to the fact that these ban policies were developed over a long period with significant civil society input and back up, and that their enforcement was widely publicised on all media, in the press and involved chiefs and local authorities in enforcement [27,31,37,45,46].

Product information, including recorded/unrecorded status, volume, alcohol concentration, price, ingredients and timing of market entry, was derived primarily from participants' accounts. Informal web searches were subsequently undertaken to inform our understanding of the products mentioned. These searches did not follow a prespecified verification protocol, and corroboration was not systematically documented at each product or attribute level. Product information should therefore be understood as participant-reported rather than independently verified. Our study and sample were designed to capture information-rich, specific perspectives rather aimed at exhaustive population-wide saturation.

Analysis

We applied to our research a constructivist ontology, which assumes that people create their own knowledge and meaning of the world around them through their personal experiences and social interactions with others, and within their own culture and context [41]. The analysis followed the same approach in both countries. Transcripts were de-identified and imported into the NVivo 20 software, to support data management. We used the thematic analysis methodology inspired by Braun and Clarke's, which is a multi-phase process involving familiarisation with data though repeated reading, generating initial codes, defining themes and overarching categories, linking themes and producing the final writing [47,48]. Coding was undertaken by DM and CN (research assistants) and reviewed for reliability by more senior expert researchers IU, NMT, and BK.

CN, DM, BK and NMT first closely read the transcripts and developed an initial thematic coding framework with IU. This framework development was hybrid, meaning inductive and deductive, derived from both the close reading of the transcripts and framed through the topic guide questions. The first draft of the codebook was discussed at a meeting with the overall team and piloted first on two transcripts in each country. The team then discussed the codes in further meetings and agreed further sub-codes with some related to one country or the other only. The finalised codebook was applied to all remaining transcripts.

Once coding was complete, we used the framework matrix function in NVivo 20 to summarise data under each theme and sub-theme. Thereafter we reviewed and linked the themes within each country data set and across both. We used a descriptive case study approach to investigate and compare each country results. Case study analysis offers a detailed understanding of the complexity of each case (whether an institution, community or country) whilst enabling the comparison between and across contexts [41]. We discussed our interpretations at several Team meetings, which led to the writing of the results. Although we found similarities in replacement packaging and the persistence of homebrews sales, this case study approach enabled us to contrast the products mentioned by participants Malawi and in Uganda, thus maintaining contextual differences, which is how we dealt with deviant cases as part of our reflexive thematic analysis [48,49]. We believe this approach enhances the validity of our findings, and their potential transferability to other parts of Uganda and Malawi and other African countries, where sachets have led to increased consumption or have been recently banned [50–52]. Our findings were shared at in-country dissemination events in November 2024.

Given that our data is qualitative and given fact that no retail marketing audit research on all products consumed pre and post ban have been published to date in either Malawi or Uganda, it was not always possible to know from participants' accounts whether the alternative alcoholic products mentioned (those perceived to be now consumed instead of the banned sachets) were products that existed prior to the ban and were being used as replacements (which seemed the case for a few of them), or those that newly emerged as substitutes following the ban (which seemed to be the majority of them).

Throughout this manuscript we talk about alcohol's availability, accessibility, and affordability. Availability means where and when alcohol is sold (this can include the number and types of shops, bars and delivery services, and their opening hours). Accessibility means how easy it is for someone to get alcohol, including how far they need to travel, whether it can be delivered, and any restrictions on buying it. Affordability means how much alcohol costs in relation to the money people have available to spend [53].

Results

Perceived effectiveness of the sachet bans

In all the focus groups conducted in Malawi and Uganda, participants indicated that they perceived that once the ban was implemented, it was effective in eliminating this product from the market, with positive effects on consumption initially.

> *"Yes 2013, 14, 15 then 2016 and they started disappearing then 17, 18, 19 they disappeared completely." (*UG2-YFOS)

> *"These days they don't have the sachets. So, I would say it [consumption] has been reduced in the context of the school."* (MG8-Teachers)

In both countries, participants attributed the ban's success primarily to its multi-sectoral implementation. In Malawi, participants described a decisive top-down action by the Ministries of Health, together with the Ministry of Trade and Industry, the Malawi Bureau of Standards and the police; they also highlighted the strong implementation at local government level (district, town and city councils). In Uganda, the Uganda National Bureau of Standards was seen as having played a central role, checking the quality of

alcohol sold and closing premises found to be selling sachets, with support from the police and security forces as well as local government officials.

> *"The Government told them [manufacturers] that they should stop producing the alcohol in sachets as it was being very destructive. So, you know when the government gives an order, no one can refuse it."* (MG1-AF)

> *"In Kampala there was alcohol that was found in some shops and when they found this sachet alcohol in Kampala shops, the owners of the shops were arrested."* (UG8-YMIS)

Community-level actors such as chiefs and other traditional leaders played a meaningful role in both settings. In Malawi, a few groups reported that Chiefs monitored the sale and consumption of sachets in their communities and educated residents on the ban. Uganda's groups similarly highlighted the role of community leaders at the local level, who used the media, and other means to sensitise populations to the ban.

> *"…when they enacted the law, they announced on radio to give information …during functions like burials, marriage, the leaders and law makers kept giving such information to the people, that's how that information spread and reached everyone."* (UG6-Traditional Leaders)

However, in all 18 focus groups, participants also expressed that the sachets ban only offered a short reprieve, and that similarly affordable and highly available products have emerged since then (replacement packaging), and for others such as homebrews, the consumption has increased. **Table 3** provides illustrative quotes from all groups, which clearly substantiate these views. We have underlined key words used by participants to stress the emphasis made.

Table 3. Perspectives on replacement packaging and persistence of homebrews consumption (illustrative quotes)

Malawi focus group discussions quotes (emphasised**)**	**Uganda focus group discussions quotes (**emphasised**)**
"since the sachets were banned, they have just removed the plastic sachets and put the alcohol in bottles." (MG1-AF)	"*They don't sell alcohol sachets again or make them, so they replaced with bottles"* (UG1-AM)
"*it's the same alcohol, they have just removed the sachets and replaced with glass bottles"* (MG2-AM)	"*They banned it …sachets reduced when the bottles were introduced"* (UG2-YFOS)
"*because of the banning of sachets, that's when there was the introduction of other alcohol such as magagada [homebrew type] that was introduced in order to replace the sachets so that their business should continue*" (MG3-YFIS)	"*It is the packaging that has been changed to bottles but chief waragi is still chief waragi of those days that was in the sachet, and it is the one they are using now*" (UG3-YMOS)
"*What they changed is the packaging, companies are still producing the alcohol, the formula is the same, the alcohol content percentage is the same which is 45 percent a small bottle. So, the end result that is happening upon people consuming the small bottle such as booster, shooter, and the like, it's the same things we were experiencing, the difference is just the packaging*" (MG4-YMIS)	"*Kadeng ci deng"[common homebrew] … so the bad effects of this alcohol that has replaced sachet alcohol is still there, and it has left people suffering*" (UG4-AF)

Malawi focus group discussions quotes (emphasised**)**	**Uganda focus group discussions quotes (**emphasised**)**
"*Ryder (popular sachet) is available, but it's packed in small bottles" (*MG5-YFOS)	"*[with] sachet alcohol being banned there is more cheaper drinks, they have only changed the packaging, those small bottle alcohol are there and you find our children are still using it*" (UG5-HW)
"*It's the same alcohol sachets but they just changed packaging and started putting the alcohol in bottles*" (MG6-YMOS)	"*Now that they [sachets] have been stopped, they thought they should change the packaging to the small plastic bottles so people are still able to move with them in their pockets so all that is still the outcome of the sachet alcohol which is still the same as the effect of alcohol*" (UG6-Chiefs)
"*So, there was no change because there was just a change in the quantity that the alcohol is being packaged. Instead of having a hand full amount in terms of quantity, we are having now three hands[measures]"* (MG7- Chiefs)	"*The manufacturers have changed the way to package the alcohol back then they used to package it in these sachets but these days they have changed the packaging it's now in small bottles, …but still you realize that the content is almost the same*" UG7-YFIS)
"[bottles are] the cheapest alcohol available, they just branded and then repacked them, they are still there… it's like they sort of found a loophole to the sachets…now most of the packaging is in glass bottles of very small bottles" (MG8-Teachers)	"*These polythene bags [sachet], it helped us that when it was banned [but] they brought the plastic bottled alcohol to replace this alcohol"* (UG8-YMIS)
"*Some of the sellers started putting kachasu in the bottles and started selling them, and those people that got used to drinking the sachets, started buying tots*." (MG9-HSAs)	"*So, it was being packaged in polythene, now the substitute of the packaging material is the cheap plastic bottle, so that packaging is still going on*" (UG9-Teachers)

Replacement of packaging: small bottles

Table 3 shows similarities between countries in terms of the replacement packaging and products mentioned by participants post sachet bans. However, to account for the contextual differences between the two countries and increase the useability of our results to those contexts, we present data from the two case studies on the products separately (bringing details for each on types, content, price, place of sale). This case study approach also helps preserve distinctions made in terms of homebrews and local unrecorded alcohol types. Where the prices of products are mentioned, we give the Malawi Kwacha or Uganda Shillings amount and the exchange rate in US Dollars, so that wider audiences may relate (the same applies to the qualitative details presented in **Supplementary Tables 2 and 3**.

All data presented below is qualitative and represents the experiences, knowledge and views of the participants in the study. According to our participants accounts, a few of these products existed prior to the ban and were being used as replacements to the sachets, whereas others emerged as replacement after the ban, as attempts by manufacturers to simply substitute one product for another. For added detail, we provide supplementary tables with more details from participants of products characteristics, packaging formats, affordability, sale settings, and community concerns (**Supplementary Tables 2 and 3**); we also include images of selected products (**Supplementary Figure 1**). The product classifications (recorded/unrecorded) are based on participants' qualitative accounts, as such the distinctions between recorded and unrecorded alcohol products were not always clear, and it is likely some products may have moved across formal and informal markets or been sold in repackaged or unlabelled forms.

The small bottles of recorded alcohol in Malawi: types, content, price, place of sale

Across most of the Malawi focus groups, participants mentioned the widespread availability of small bottles of alcohol (from 200mls to 330mls) locally known as 'nips'. Young people's groups (particularly out-of-school and males) were the most knowledgeable of 'nips' brands mentioning 18 commonly consumed in their communities. Most nips were sold in returnable and reusable clear glass bottles and contained spirits (gin, brandy, rum, vodka). A few of the groups mentioned that spirits strengths were around 40% alcohol volume (ABV), which they perceived as strong, and potentially harmful. Larger bottles of spirits, cider and beer were also mentioned as sold in glass bottles of 330mls and above.

The 200ml 'nips' were described as extremely affordable (see **Supplementary Table 2**), starting at MK500 (US$0.29) for gin or rum. The adult groups mainly mentioned the larger bottles of alcohol (above 330ml) such as Malawi Gin or Chibuku beer, which are more expensive; however, some adults' groups also frequently mentioned nips (e.g. Red Deer, Right choice). The affordability of the nips was seen as a driver for consumption, particularly in young people's groups.

> *"Alcohol in nips is cheap as compared to other brands, so, one tends to see that if he or she buys [recorded brand] it will cost about MK15000 [US$8.59] to get drunk, and yet maybe he has only MK1500 [US$0.86] in his pocket. Therefore, he will buy two nips of cheap alcohol which contains over 40 percent alcohol."* **(**MG4-YMIS)

In terms of where to buy 'nips', most groups reported that they were commonly available in grocery shops, supermarkets, clubs, bars, tuck shops, villages, on markets and in 'shebeens' (local, typically unlicensed, drinking place or informal bars). In some of the groups, participants added that 'nips' were consumed by all ages and often sold to anyone without age verification (*"The ones that are selling alcohol do not look at the age of the one that is buying, everyone is sold and can consume regardless of age "(*MG6-YMOS).

Our focus group with teachers confirmed that young people can easily purchase 'nips', sometimes by pooling financial resources together between them. The adult female group showed concerns around young people mixing cheap alcohol from nips with energy drinks or soft drinks (*"when the youth buy this alcohol, they tend to buy energy drink or ginger drink and add alcohol in that." (MG1- AF).*

The small bottles of recorded alcohol in Uganda: types, content, price, place of sale

Focus group participants in Uganda also reported the widespread availability of small plastic bottles of alcohol, particularly 200mls, even though the regulations set "*the lowest volume to be not less than 250mls (for spirits)"* (Ministry of Health-(DUO1). All our focus groups could name brands of the small bottles of (detailed in **Supplementary Table 3**). Across the four young people's groups, 12 brands of those were cited (with Torrero, Bond 7 and Uganda Waragi most cited). Across the five adult groups, 12 brands of the small bottles were also named.

> *"The alcohol in small bottles is still a lot in our area here for instance Adrikos, Salvador, High 5, those are the ones here in our area and many others"* (UG3-YMOS-Rural)

Participants stated that the content of the small bottles was mostly gin, whisky and vodka products at an ABV of approximately 40% or over. Some products had coffee flavour or were mixed with energy drinks or flavours (e.g. Kabisa, Coffee Vodka).

Those small bottles were seen by participants as extremely affordable, most selling between UGX500 and 2500 (US$0.12-0.61); we offer further details in **Supplementary Table 3**. Some participants stated that larger bottles of beer (e.g. 300ml) may cost as low as UGX2500 (US$0.61). The affordability of the products was raised in a number of groups, including those with young people, as driving consumption "*most of the reason [we buy them] is because they are cheap, and affordable from the lowest prices*" (UG2-YFOS-Urban).

Over half of the groups In Uganda reported widespread availability for the small bottles, purchasable in retail shops, markets, supermarkets, trading areas, small bars in urban areas, as well as in villages.

> *"Alcohol, small bottles are very many, even the new ones that we are seeing are entering the market. There are many in all the trading centres everywhere you go, you see, they have bars."* (UG3-YMOS-Rural)

Our group participants expressed that all gender and ages are consuming the smaller bottles of alcohol, but especially the young and the males. For some participants, the small bottles were perceived to target the young through the packaging and labelling. A young female participants stated about the Kabisa bottle (vodka with energy drink tropical flavour):

> "it *makes you strong and when you see the writing on it, they have drawn a person who is very well built, so there are very many people who are taking it*"(UG7-YFIS-Rural).

Persistence of measured informal sales (homebrews)

Homebrews and unrecorded alcohol in Malawi

In the Malawi focus groups unrecorded alcohol, particularly homebrews were described as persistently sold since the sachet ban. Although produced pre-sachet ban, they were perceived by all groups as widely available, cheap and increasing consumption. The alcohol named *Kachasu* was particularly prevalent and mentioned in almost all groups as being widely available for consumption in their district.

> *"Everyone is buying this alcohol [Kachasu]; it's not target specific to a certain group. Everyone is buying the alcohol whether the youth, men and women" (*MG1-AF).

The young people's groups of both genders were the most knowledgeable of homebrews, mentioning 13 different names of unrecorded alcohol, with *Kachasu*, *Magagada, Makhaya* and *Ambuye Nditengeni* being the most mentioned.

Participants stated homebrews can be purchased in markets, as well as informally in the villages. As a young male explained "*it's everywhere…for Kachasu, you cannot travel 100 meters without finding such alcohol"* (MG4-YMIS).

Participants explained that these homebrews are usually sold by measure (including very small measures, see **Supplementary Table 2**) according to the purchasing power of the consumer, including young customers.

> "*In shebeens [they] buy like at wholesale in 5 litres bottles and resell at their drinking joints. But if I can go there with MK300* [US$0.17] *or MK500* [US$0.29]*, they will still sell m*e *it*." (G4-YMIS)

Vendors were described as re-using glass bottles to pour unrecorded alcohol in them to sell. The adult males group confirmed that small plastic bottles are used by sellers, with measuring marks drawn on them, for instance with two lines worth costing MK200 (US$0.12), three lines MK300 (US$0.17), all the way up to MK700 (US$0.40). A filled 330ml bottle could cost up to MK1200 (US$0.69). The extreme affordability of this alcohol was confirmed in six of the groups (including all four young peoples' groups).

There were worries among some the groups participants regarding the content of some of this alcohol, concerns which have been echoed in Malawi media. For instance, *Ambuye Nditengeni* (translating from Chichewa to "*Take me Lord*"), has particularly been reported as being harmful to health, due to being mixed with methanol [54]. Although we did not conduct any testing in our study, some of our participants mentioned that some unrecorded alcohol was mixed with other toxic substances.

> *"(Ambyue Nditengeni), It's made from water that is used to clean metals [methanol]."* (MG5-YFOS)

> *"they buy pills [Lean, a medicine mixed with opioids] and they dilute in the drum."* (MG4-YMIS)

In terms of alcohol strength, our participants used words such as "harmful," "powerful", comparing homebrews strength to that of sachets in the past.

> *"The things one was experiencing upon consuming alcohol sachets, it's exactly what is happening when one consumes this alcohol (Makhaya)…the alcohol content percentage is the same which is 45 percent." (*MG4-YMIS)

Homebrews and unrecorded alcohol in Uganda

In our Uganda groups, participants described unrecorded alcohol as a longstanding feature of local markets, but also as a persistent feature nowadays. Across the four young people's groups (urban and rural), no less than 12 types of home brews were mentioned as available in the community, with *Kadeng ci deng* as most cited (see **Supplementary Table 3**). Young males and females out of school were the most knowledgeable of these products.

> *"These days other new types of alcohol have come out in the market, even alcohol of UGX500 which can make you drunk. You can still find, for instance, Kasese, Lira-Lira, Kadeng ci deng."* (G3-YMOS-Rural)

The adult women and traditional leader's groups, both conducted in rural areas, named nien types of homebrews produced and consumed locally (including *Kadeng ci deng, Kasese, Kwete*). This is not surprising as homebrewing is more common in rural areas.

In most of our focus groups, participants reported that homebrewed alcohol is packaged in large jerrycans or drums and then measured in cups or small bottles to be sold to customers at different prices, depending on what each customer can afford.

> "*These shop dealers always have a tap where they begin with UGX1000 or above. But when they have measured for you, so in case you go with UGX10,000, they'll just give you a glass bottle. But once you go with your own bottle, they will ask you, for how much alcohol you want them to put for you; they will open the tap and put it for you.*" (G8-YMIS-Urban)

In a few of the Uganda groups, participants mentioned that chemicals or additives are sometimes added to these brews, giving them a sweeter taste or a colour (although did not conduct any independent testing of those homebrews in this study, so we could not verify this).

> *"The chemical that is used to make Kadeng [ci deng] changes the colour …they also bring another chemical to change the fermenting of that alcohol that makes people smell it as nice, like banana."* (G4-AF-Rural)

This alcohol, sold in the community was described as extremely affordable. Across six out of our nine groups (including three of the young people's groups), participants stated that the smallest measure (e.g. *Kadeng ci deng* or *Kasese*) starts at UGX500 (US$0.12) for a smaller cup or bottle, and at UGX1000 (US$0.25) for a larger container. This means, as an adult man put it, that "*even a lower-earning person is able to drink those alcoholic drinks*" (UG1-Adult males). Several of the groups (especially Chiefs and teachers) worried about the affordability of those products, especially to the poorest who rely on their day-to-day income, gained through informal work.

> *"If someone goes and does an odd job, he can earn UGX2000[US$ 0.49], UGX5000 [US$ 1.23], so what they do is that the little money that they have got, they will buy alcohol with it … because the price is cheap.*" (UG6-Traditional-Rural)

Perceived impact of the replacement products on consumption and harm

Malawi and Uganda focus groups participants linked the availability of small, inexpensive, and easily accessible alcohol products (both recorded and unrecorded) to recent increases in consumption

> *"The alcohol that is packed in nips is the one that tends to be cheap as compared to the other brands…as of now, the percentage of people consuming that alcohol has increased because we tend to share or buy alcohol for one another." (*MG4-YMIS)

> *"Previously, we had only about two vehicles pass by while transporting alcohol (in small bottles). Currently, each day here, I see about thirty vehicles moving loaded with alcohol which means it increases.*" (UG1-AM-urban)

In our Malawi teacher's group, a participant stated, "*now that they [Castel Malawi] have introduced a 300mls bottle, the consumption for gin has skyrocketed*" (MG8-Teachers). Participants' accounts suggested that the ubiquitous presence of smaller and cheaper packages or measures of alcohol was seen as leading to increased consumption.

In Malawi, several groups expressed concerns that some of the poorest people are drinking heavily whilst suffering from hunger, which makes the impact on their health more pronounced.

> *"When it comes to Ambuye Tengeni, if you drink without eating, it takes you to the Lord indeed! … A lot of people are drinking alcohol without eating, so there tend to be a lot of effects on people including deaths."* (MG9-HSAs)

This is important in this context, as Malawi suffers from chronic food insecurity, with over half of its population living below the poverty line [55].

In our Uganda groups, participants also expressed concerns over the fact that the small bottles could now be found at stadiums, around playgrounds, at many social and community events (with loaded trucks driving around the city delivering alcohol); they also mentioned increased accessibility to the poorest and the most vulnerable.

> *"Alcohol these days, even the youths drink it. It's not that someone has to have a lot of money, we have UGX500 [US$0.12], UGX1000 [US$0.25]; so, if one does casual work, they use that money to buy alcohol. Youth, men, women all are taking that alcohol. The one in jerrycans [homebrews], … even the children are taking it, when they hear music at the disco place or at a funeral anywhere, they all go there because they know the vendors are there selling that type of alcohol."* (UG4-AF)

Discussion

The main findings of this study

This study examined some of the perceived unintended consequences of the alcohol sachet bans in Malawi and Uganda. Groups participants observed and believed was that although the bans were successful in initially reducing availability and consumption (particularly amongst the younger populations), there continues to be wide availability of smaller, inexpensive, and easily accessible alcohol products post bans. From participants accounts, we can infer that some of these products were already present within local alcohol markets in the past and have served as replacements to alcohol sachets while others appeared to emerge after the ban as a substitute for alcohol sachets (a large number of small glass and plastic bottles around 200ml).

Our participants stated clearly that they believe these alternative products have effectively replicated the sachets' accessibility, affordability and availability. They described the continued prevalence of unrecorded (homebrew) alcohol, untested, and in some cases possibly adulterated with methanol or other substances. According to the participants observations and experiences, this unrecorded alcohol is often packaged in bulk and sold in smaller, measured amounts (small cups, bottles) at any price the customer can afford. Some group participants remarked that those products are often sold without age verification, to people of all ages. The products described by our focus groups participants were perceived to be as easily accessible to young people and the poorest in communities (around schools, in villages, at social events, and in all formal and informal outlets).

What is already known on this topic

In the last decade, publications have noted innovations in alcohol products design, packaging and pricing in Africa and their links with increased alcohol consumption [21,53,56–58]. For instance, the impact of alcohol sachets on widespread alcohol availability and on harm has been well documented [27,29,30,32,33,43,51,59]. The literature shows that both small packages (such as sachets) and larger than average packaging of alcohol (e.g. larger bottles) have been linked to heavier drinking, harmful consumption and risky sexual behaviours in Africa [29,32,58,60]. For example, concerns have been raised in South Africa regarding the increase in container sizes of alcohol products (larger bottles and large wine containers), which have been described as predictors of heavy episodic drinking and heavy consumption [57,58].

However, we found very few papers which explored the availability of alternative products or replacement packaging consumed following sachet bans in Africa. Two studies have stated that sachet bans originally contributed to reducing availability in Malawi and Uganda [28,31]. Smart et al.'s observational study of 100 alcohol venues in two Ugandan districts, conducted soon after the 2019 ban, showed a significant reduction in sachets availability in off-premises outlets, where they had been primarily sold prior to the ban. At that time, the authors warned that the sachet ban may push consumers toward other cheaper informal alcohol (such as homebrews), which already accounts for a large part of alcohol consumption in Uganda [28]. Similarly, in their small qualitative study, conducted shortly after the 2017 sachet ban in Malawi, Salimu et al. [31], pointed to the emergence of alcohol purchased by sellers from manufacturers in 5 litre bottles, to re-sell to demand to consumers; they warned that "the new packaging practice renders the alcohol readily available to underage populations through increasing accessibility"[31] As markets change to accommodate new policies and legislations, studies like ours are key to understanding community members views and understand and experience any market adaptation post sachet bans, in order to develop more comprehensive, effective and community informed policy actions.

What this study adds

To our knowledge, this study is the first to explore community perceptions of the types of alcohol products available and consumed at community level since the sachets bans in Malawi and Uganda. In the case of the districts where we focused, the product which seems to have emerged as a new substitute since the ban is the small bottle of recorded and unrecorded alcohol. The Malawi Liquor Act of 2015 allows spirits and liquor to be packaged in glass bottles of 200mls [34]. In Uganda, the 2019 National Alcohol Control Policy set the alcohol's "lowest volume to be not less than 250mls (for spirits), 750mls for wines and 330mls for beers"[36]. Our results indicate a potential move, on the part of manufacturers towards the production and sale of smaller size, very affordable products. In Malawi, one of the biggest manufacturers, Castel Malawi, introduced, a smaller 330mls bottles of brandy, vodka and gin (now commonly known as 'baby gin') in 2022. At that time, Castel stated that this was "to ensure uninterrupted availability of the iconic spirits and introduce an affordable pack size for common customers" [61]; they also justified the move as a way "to reach out to those people who cannot afford to buy a 750ml bottle of these spirits" [62]. In similar moves in Uganda, the Uganda Breweries website shows the different package sizes in which Uganda Waragi, a particularly popular brand in the country, can be sold: "200ml PET bottle at UGX4,600 and 100ml PET bottle at UGX2,600" [63]. Such strategies are worrying, since these manufacturers have

some of the biggest market shares in Uganda and Malawi, and could set 'small bottles' trends for other producers to follow in the region. However, our study is exploratory and qualitative, and confirmation of our findings through full larger scale retail audits of products is needed in both countries, as well as longitudinal consumption data, independent tax and sales data and product testing.

Our findings will be of interest to other countries in the region, where sachets may still be found, or where they have recently been banned [51]. This paper shows that the alcohol industry and manufacturers are adept at working with and around regulations to increase the demand and the availability of alcohol (Ferreira-Borges et al., 2017), and may be reducing alcohol packaging sizes in an attempt to boost consumption in Africa [64]. Our other published papers from the same study show that manufacturers and industry are preoccupied by the size and packaging of products: in Malawi during the long protracted process of the ban, manufacturers placed an injuction in the court to delay the ban by arguing that by banning the packaging of alcohol in plastic bottles (well as plastic sachets)of 200mls and above was "negatively affecting their business" [27] ; in Uganda, the sachet ban was partially delayed because manufacturers pleaded with the Ministry of Trade allow for a phase out of the sachets in order to change production to bottles[37]. In this context it may be advisable for policies to contain clearer labelling regulations, and information around standard drink sizes, consumption guidelines and harms as has been suggested for Nigeria [65,66]. When we shared preliminary findings from this paper at the latest Network of African Parliamentary Committees on Health (NEAPACOH) meeting in Zambia in February 2026 [67], parliamentarians from other countries such as Zambia and Nigeria, verbally confirmed similar trends and concerns regarding the existence of small alcohol bottles ('pocket-size') in their countries. The latest country to tackle this issue is Nigeria where, in November 2025, the NAFDAC issued "a total ban on the production and sale of alcoholic beverages in sachets and small-volume PET/glass bottles (below 200ml) …to safeguard public health and protect vulnerable populations – particularly children, adolescents, and young adults – from the harmful use of alcohol" [50,52]. Our findings, though limited to particular districts in Malawi and Uganda, will be of relevance to Nigeria and any other country issuing similar policies in the future.

In this paper, we show that community members perceived that the low price of the substitute products available post-bans may be a driver for consumption, especially among the youngest and the poorest. In Malawi, a recent paper described that lower-income and rural households spent proportionately more on alcohol than wealthier and urban counterparts, and that alcohol consumption expenditure crowded out spending on food, housing, and education among the poorest [68]. This has significant implications for the development of a country which ranks 172/193 on the latest Human Development Index [69]. Fontes et al. have similarly reported that in South Africa, spending was regressive throughout 1995-2011, meaning poorer households devoted a larger share of their total expenditure to alcohol than richer households [70]. The authors concluded that there was no evidence that alcohol taxation increased regressivity, but that coherent alcohol policies, alongside monitoring of substitution effects between beverage types, could further reduce this inequity. This is an under researched topic at present and more investigation is needed.

Finally, our paper adds significant detail, albeit of a qualitative nature, on the consumption of unrecorded alcohol (e.g. homebrews) in Malawi and Uganda, where little literature on the topic exists. Very few studies have explored this issue in Malawi [71,72] or Uganda [73], but they highlight unrecorded alcohol

production as a significant chemical, health and environmental risk, compounded by regulatory gaps, and a lack of awareness of alcohol strength and harm among consumers. There is a significant gap in knowledge around what unrecorded alcohol is, where it is sold, and who consumes it [53,72,74,75]. Unrecorded alcohol accounts for a large proportion of sales in the African continent (possibly between 30% and 50% depending on countries) and is also a major source of livelihood for some populations [25,76]. Literature suggests that the best policies may consist in regulating unrecorded alcohol markets (e.g. licensing of traditional brew sellers and offering financial incentives to the producers for registration and quality control), as a safer alternative to outright bans, to protect livelihoods and cultural practices [74,77,78]. Public awareness campaigns about the dangers of consuming unrecorded alcohol have also been recommended, including in Malawi [25,72]. Stronger epidemiological monitoring, and more research is needed to capture the true scale of unrecorded alcohol consumption, and guide effective policy responses (Rehm et al., 2014; Room et al., 2022).

Our findings suggest that measures targeting individual products or packaging formats should form part of a broader public health response. The reported availability of alternative small containers and measured pours highlights the need to consider how restrictions could be circumvented or shift sales towards other formats. Complementary measures could include evidence-supported approaches including taxation based on alcohol content, minimum unit pricing where feasible, licensing and outlet-density controls, restrictions on marketing appealing to young people, and consistent enforcement of age verification [79]. Surveillance should cover both recorded and unrecorded alcohol to identify changes in availability, affordability and consumption following regulation. Although our study does not establish the effectiveness of these measures, it highlights the importance of addressing the wider conditions that sustain widespread availability and access to cheap alcohol.

Limitations

Although this study provides the first qualitative insights into the types of products consumed following the alcohol sachets ban in Uganda and Malawi, this was a small exploratory study limited to two districts in each country, and a wider comprehensive retail monitoring study is required to account for all types of products manufactured and sold in all urban as well as rural communities. In our study, data collection stopped due to restricted timelines and budget limits, therefore while recurring themes developed from our groups' data, full saturation could have been enhanced by conducting more groups in all parts of each country. Furthermore, from participants accounts, it was not always clear whether some products could be classed as recorded or unrecorded, since community members did not necessarily distinguish between the two types of alcohol (apart from homebrews). Reliance on participants' accounts may have introduced inaccuracies in product characteristics and classification, particularly recorded/unrecorded status and timing of market entry. Informal online checks of names and prices did not constitute systematic independent verification. Additionally, participants did not clearly state whether every product they spoke about was available prior to the ban and was used as a replacement to the sachets or was a newly emerging substitute product launched after the ban. More in-depth research is required in this area to build a clearer and fuller picture and to develop a contextually specific typology and database.

Conclusion

This study provides qualitative evidence on how alcohol markets in Malawi and Uganda have evolved following the introduction of sachet bans. While these policies were effective in removing sachets from circulation, they did not produce sustained reductions in availability or affordability. Instead, they were followed by a shift towards small-format bottled spirits and the continued availability of unrecorded alcohol, both of which reproduce the key features that made sachets attractive to consumers. These findings suggest that policy approaches targeting a single product type are unlikely to have lasting effects unless they form part of a broader and more coherent strategy addressing packaging, pricing and availability across the market. They also highlight the need for legislation to anticipate and limit industry responses aimed at circumventing regulation. The persistence of unrecorded alcohol further points to the importance of more pragmatic regulatory approaches that engage with, rather than simply prohibit, this sector. More generally, there remains a lack of systematic, policy-relevant data on alcohol markets in these settings. Future work should prioritise more detailed mapping of products, pricing and points of sale, alongside improved measurement of unrecorded consumption, to better inform policy development.

Table 2. Inclusion criteria and recruitment method

<table>
<tr><th>Focus group discussion participant type</th><th>Inclusion criteria</th><th>Malawi recruitment method</th><th>Uganda recruitment method</th></tr>
<tr><td>Adult females</td><td rowspan="2">≥18 years old; interest or experience of alcohol consumption (e.g. in their social networks)</td><td rowspan="2">Information on the study spread through local traditional leaders and market associations. Community members invited to a meeting with researchers to hear more information (and ask questions). All those who came forward wanting to take part were given participant information sheet and consent forms.</td><td rowspan="2">Information on the study spread through community leaders in the area. Community members invited to a meeting with researchers to hear more information (and ask questions). All those who came forward wanting to take part were given participant information sheet and consent forms.</td></tr>
<tr><td>Adult males</td></tr>
<tr><td>In-school young females</td><td rowspan="2">16-18 years old; currently in school; interest or experience of alcohol consumption (e.g. in their social networks)</td><td colspan="2" rowspan="2">Team met head teachers in local schools (through district education /school administration offices) to explain the study. Schools invited interested students to meet the researchers for more information and to ask questions. All of those who came forward wanting to take part were given a participant information sheet, assent and consent forms, to discuss with parents.</td></tr>
<tr><td>In-school young males</td></tr>
<tr><td>Out-of-school young females</td><td rowspan="2">16-18 years old; not in education; interest or experience of alcohol consumption (e.g. in their social networks)</td><td colspan="2" rowspan="2">In selected communities, the team provided youth, community groups, village committees and community leaders with information on the study and asked them to spread the word. All interested out of school young people met researchers to hear more information (and ask questions) at chosen secure community location. They were given information and we answered queries. All of those who came forward wanting to take part were given a participant information sheet, assent and consent forms, to discuss with parents.</td></tr>
<tr><td>Out-of-school young males</td></tr>
<tr><td>Traditional Chiefs (mixed gender)</td><td>≥18 years old; interest or experience of alcohol consumption in their village/community</td><td colspan="2">Information on the study spread through traditional or local authorities' mechanisms. Interested village/group village headpersons were invited to a meeting to hear more information on the study. All of those who came forward wanting to take part were given a participant information sheet and consent forms.</td></tr>
<tr><td>Teachers (mixed gender)</td><td>≥18 years old; secondary school teacher; interest or experience of alcohol consumption around the school/community</td><td colspan="2">Information on the study was given to teachers (through district education office/school administration offices). Those interested were invited to a meeting to hear more information on the study. All of those who came forward wanting to take part were given a participant information sheet and consent forms.</td></tr>
<tr><td>Health Surveillance Assistants (HSA) or health workers (mixed gender)</td><td>≥18 years old; HSA or health worker; interest or experience of alcohol consumption in their community</td><td colspan="2">Information on the study was communicated through local health centres/hospitals (via the district health office and facilities departments). HSAs or health workers interested were invited to a meeting to hear more information on the study. All of those who came forward wanting to take part were given a participant information sheet and consent forms</td></tr>
</table>

Focus group discussion participant type	Inclusion criteria	Malawi recruitment method	Uganda recruitment method
Selection of those included	Though more than 10 expressed interest to participate for each group type, we included the first 10 who returned their written and signed consent form (and assent form for young people). For the Traditional Chiefs group in Malawi, 10 were recruited but only 6 attended as others had been called to urgent matters in their villages		

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Declarations

Ethics approval and consent to participate

Ethical approvals for this study were obtained from the University of Stirling (8077) , the University of Malawi (P.03/23/221) and Makerere University School of Public Health in Uganda (SPH-2023-394) as well as the Uganda National Council of Science and Technology (HS3130ES). In Malawi, an approval letter was also obtained from the South-West Education Division Office to recruit young people from secondary schools, and authorisation was obtained from the District Health Office in Zomba to conduct focus group discussions with Health Surveillance Assistants. All focus group participants provided written consent to take part in the study

Consent for publication

“Not applicable”

Availability of data and materials

All data generated or analysed during this study are included in this published article [and its supplementary information files].

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

IU, DM, MO, CN, NMT, RB, and CP led the conceptualisation of the study. Investigation was conducted by DM, CN, NMT, and BK. Data curation was carried out by IU, DM, CN, NMT, and BK. Formal analysis involved IU, PO, DM, MO, CN, NMT, RB and BK. The methodology was developed by IU, MO, NMT, GM, RB, and BK. Supervision was provided by IU, NMT and BK. Validation was performed by IU, DM, MO, CN, PO, NMT, CP, and BK. IU led the writing of the original draft of the manuscript supported by PO, DM, CN, NMT, RB and BK. Tables and figures were prepared by IU, PO, and RB (with support from CN and DM). All authors read, reviewed and approved the final manuscript.

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Supplementary Material

Supplementary Table 1: COREQ checklist

Based on Tong et al. [38]

Item No	Guide Questions/Description	Detail Reported on Page #
Domain 1: Research team and reflexivity		
Personal Characteristics		
1. Interviewer/ facilitator	Which author/s conducted the interview or focus group?	Pg 7
2. Credentials	What were the researcher's credentials? E.g., PhD, MD	Pg 7
3. Occupation	What was their occupation at the time of the study?	Pg 7
4. Gender	Was the researcher male or female?	Pg 7
5. Experience and training	What experience or training did the researcher have?	Pg 7
Relationship with participants		
6. Relationship established	Was a relationship established prior to study commencement?	Pg 6-7
7. Participant knowledge of the interviewer	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research?	Pg 6
8. Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	Pg 7-8
Domain 2: study design		
Theoretical framework		
9. Methodological orientation and Theory	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	Pg 8-9
Participant selection		

Item No	Guide Questions/Description	Detail Reported on Page #
10. Sampling	How were participants selected? e.g., purposive, convenience, consecutive, snowball	Pg 6-7
11. Method of approach	How were participants approached? e.g., face-to-face, telephone, mail, email	Pg 6-7
12. Sample size	How many participants were in the study?	Pg 5
13. Non-participation Setting	How many people refused to participate or dropped out? Reasons?	Pg 7
14. Setting of data collection	Where was the data collected? e.g., home, clinic, workplace	Pg 8
15. Presence of nonparticipants	Was anyone else present besides the participants and researchers?	no
16. Description of sample	What are the important characteristics of the sample? e.g. demographic data, date	Pg 5-7
Data collection		
17. Interview guide	Were questions, prompts, and guides provided by the authors? Was it pilot tested?	Pg 8
18. Repeat interviews	Were repeat interviews carried out? If yes, how many?	no
19. Audio/visual recording	Did the research use audio or visual recording to collect the data?	Pg 8
20. Field notes	Were field notes made during and/or after the interview or focus group?	Pg.8
21. Duration	What was the duration of the interviews or focus group?	Pg 8
22. Data saturation	Was data saturation discussed?	Pg 8
23. Transcripts returned	Were transcripts returned to participants for comment and/or correction?	N/A
Domain 3: analysis and findings		
Data analysis		
24. Number of data coders	How many data coders coded the data?	Pg 9
25. Description of the coding tree	Did the authors provide a description of the coding tree?	Pg 9
26. Derivation of themes	Were themes identified in advance or derived from the data?	Pg 9
27. Software	What software, if applicable, was used to manage the data?	Pg 9
28. Participant checking	Did participants provide feedback on the findings?	Pg 9
Reporting		

Item No	Guide Questions/Description	Detail Reported on Page #
29. Quotations presented	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g., participant number	Pg 10-17
30. Data and findings consistent	Was there consistency between the data presented and the findings?	Pg 10-17
31. Clarity of major themes	Were major themes clearly presented in the findings?	Yes, see Pg 10-17
32. Clarity of minor themes	Is there a description of diverse cases or a discussion of minor themes?	Yes, throughout, see Pg 10-17

Supplementary Table 2. Summary of alcohol product types identified in the Malawi focus groups

This table synthesizes participant-reported information on alcohol products, packaging, sale practices, and perceived concerns from Malawi focus group discussions. Product names and descriptions reflect participant terminology and should be interpreted as reported perceptions rather than independently verified product information. *All prices are in Malawi Kwachas (MK) and equivalent US Dollar (USUS$) on 09th October 2026 exchange rates [XE].*

Product category	Example products	Reported characteristics	Packaging / serving format	Reported price / affordability	Sale or production settings	Main concerns / themes
Unrecorded home-distilled spirits	Kachasu; Kalabongo; Khefulamu; Makhaya; Jada	Locally distilled clear spirits often described as strong or water-like. Some participants described the first distillation as particularly high strength. Some products were said to taste sweet or be mixed with other drinks.	Small reused glass bottles of "nips"; 250-350ml water / Frooty or Frozy fruit juice bottles; sometimes sold by measure from larger containers.	Commonly reported around MK500-MK1,200 [USUS$0.29-0.69] for small bottles, with some products sold in smaller measures from around MK100-MK300 [USUS$0.05-0.17].	Village production, streets, bars, shebeens, markets, and informal sellers.	Low cost, wide availability, heavy intoxication, mixing with commercial spirits, consumption by young people and adults.
Locally fermented beers and sweet brews	Chikokeyani; Midoli/Masese; Magagada; Dopelo	Homebrewed or locally brewed drinks made from local ingredients such as maize or maize husks. Some were described as sweet, juice-like, or easy to mix with spirits.	Cups, bottles, small measures or shared containers; sometimes measured into small bottles.	Low-price cups or measures were reported, starting at MK200-MK500 [USUS$0.12-0.29] depending on quantity, and upwards.	Homes, local brewing sites, community setting and markets.	Cheap and socially embedded; concern about young people mixing these drinks with stronger bottled spirits.
Industrial ethanol,	Ambuye nditengeni; Makodini / Wayiwala	Products described as made from, or containing,	Five-litre containers or small reused	Reported to be usually sold	Informal and illegal sale	Most serious perceived health

Product category	Example products	Reported characteristics	Packaging / serving format	Reported price / affordability	Sale or production settings	Main concerns / themes
methanol-linked or highly adulterated products	Njinga / Mabadula / Wazibambo; products described as methanol/metal-cleaning alcohol	industrial alcohol, methanol, pills, or substances used to clean metals. Participants linked some products to deaths and severe harm.	bottles; measured pours using small bottles or cups.	according to purchasing power, including in very small measures around MK200-MK300 [USUS$0.12-0.17], and larger small bottles around MK1,000 [USUS$0.58].	settings; some participants said availability had reduced due to arrests, fines or deaths.	concern: poisoning, death, strong intoxication, illegal sale and uncertainty about contents.
Counterfeit and refilled alcohol	Counterfeit spirits; commercial bottles refilled with unrecorded products	Participants described empty-branded bottles being collected and refilled, creating uncertainty about whether products were genuine.	Reused Malawi Gin, Powers or other branded bottles; small glass or plastic bottles.	Not consistently reported by participants	Informal vendors and street sellers.	Product authenticity, unknown strength, adulteration and consumer deception.
Small-format bottles of recorded spirits (nips)	Malawi Gin; Jambo Gin; Zikomo; Ice London; Powers No.1; Shooter; Right Choice; Club 7/8; 88; Red Deer; Extreme; Chez; One Kick; Black Ponda	Commercial spirits sold in small bottles, often described as strong, portable and easy to buy. Some participants focused on alcohol percentage and strength.	Nips; commonly 200ml; some larger bottles also reported (300ml); shots sold where full bottles were unaffordable.	Examples from participants accounts ranged from prices of MK500-1200 [USUSUS$0.29-0.69] (e.g. for nips of Ice London, Zikomo, Jambo Gin), to MK4,000-MK5,000 for small Malawi Gin bottles [USUS$2.31-2.88]	Shops, bars, supermarkets, pubs, shebeens and other alcohol outlets.	Affordability of small units, easy concealment, widespread availability, sales to underage drinkers and mixing with homebrews.
Commercial beer, cider and ready-to-drink products	Carlsberg; Kuche Kuche; Castel beer; Chibuku cider; Hunters Cider; Booster Cider	Recorded beer, cider and ready-to-drink products. Some were described as gendered, youth-oriented, sweet or comparatively easy to drink.	Bottles, cartons (rarer) and small commercial containers; some nips reported for cider/booster products.	Examples included MK700-MK2,000 [USUS$0.41-1.15] for some beer/cider products; participants reported	Bars, shops, supermarkets and shebeens.	Widespread availability; some products perceived as attractive to girls/women or young people.

Product category	Example products	Reported characteristics	Packaging / serving format	Reported price / affordability	Sale or production settings	Main concerns / themes
				higher prices for premium products.		
Mixed drinks and concealment practices	Chikokeyani mixed with spirits; energy drinks or ginger drinks mixed with alcohol; Powers diluted with Chibuku; alcohol carried in or mixed with SOBO soft drinks	Cross-cutting practice rather than a single product category. Participants described mixing to increase strength or conceal alcohol use, including among school-going children.	Everyday drink bottles, water bottles, squash bottles, cups and small containers.	Linked to the affordability of small measures and shared purchasing among groups.	Schools, streets, bars, shops and informal settings.	Concealability, youth drinking, intoxication during school, and difficulty for adults/teachers to identify alcohol use.

Note: Categories represent analytical summaries of products discussed across focus group discussions. Some products may sit across more than one category because participant descriptions sometimes blurred distinctions between formal and informal, recorded and unrecorded, local, flavoured, and commercial alcohol products. Product descriptions, prices, packaging formats, and reported characteristics reflect participant perceptions and discussions and were not independently verified. Reported prices were approximate and may have varied by location, packaging size, and point of sale. Product names reflect local terminology used by participants and may vary across regions and communities.

Supplementary Table 3. Summary of alcohol product types identified in the Uganda focus groups

This table synthesizes participant-reported information on alcohol products, packaging, sale practices, and perceived concerns from the Uganda focus group discussions. Product names and descriptions reflect participant terminology and should be interpreted as reported perceptions rather than independently verified product information. *All prices are in Uganda Shillings (UGX) and equivalent US Dollar (US$) on 09th October 2026 exchange rates [XE].*

Product category	Example products	**Reported characteristics**	**Packaging / serving format**	**Reported price / affordability**	**Sale or production settings**	**Main concerns / themes**
Locally distilled spirits	Waragi, Kasese, Kadeng ci deng, Lutujju, Bu jjaja, Mukomboti, Sanyuka	Very strong locally distilled spirits commonly described as cheap and widely consumed	Sold in jerrycans, reused bottles, cups, sachet replacements, and measured pours	Participants reported very small quantities available; products frequently sold according to purchasing power from UGX500-1000 [US$0.12-0.25] and upwards.	Homes, roadside vendors, informal drinking places, markets	Heavy intoxication, widespread availability, consumption among young people and adults
Homebrewed and fermented beverages (from banana, millet, etc)	Kwete, Wiri, Lira Lira, Omwenge, and other local brews	Traditional or locally fermented beverages are often consumed communally	Shared containers, cups, basins, drums, and calabashes	Low-cost products described as extremely affordable, from UGX500, [US$0.12], within local communities	Homes, brewing sites, community drinking settings	Socially normalised drinking, widespread community consumption
Counterfeit or adulterated alcohol	Counterfeit spirits and unlabelled products	Products described as being of uncertain origin or mixed with chemicals	Repackaged bottles or unlabelled containers	Typically, cheaper than commercial alcohol products	Informal vendors and unregulated sale settings	Concerns about contamination, methanol, poisoning, and unknown contents
Commercial high-strength spirits sold in 200ml small bottles (as well as larger bottles)	Uganda Waragi, Bond 7, Chief Waragi, Royal Vodka, Adrikos, High 5, Torrero, Salvador, Kitoko,	Commercially produced spirits commonly sold in small affordable units	Small bottles ('tot packs'), quarter bottles, and miniature containers	Participants reported the 200mls bottles prices start at UGX 500 [US$0.12], with most selling between UGX500 and 2500 [US$0.12-0.62]	Shops, kiosks, bars, supermarkets, trading centres, markets, in villages	Easy concealment, portability, affordability, high alcohol strength

Product category	Example products	Reported characteristics	Packaging / serving format	Reported price / affordability	Sale or production settings	Main concerns / themes
	Simba, Empire Vodka					
Commercial beers and ciders	Nile Special, Bell Lager, Club Beer, Hunters Cider, Eagles Beer, Senator	Commercial beer and cider products widely available across communities	Bottles, cans, cartons, and crates	Prices varied according to brand and container size; e.g. larger bottles of beer (e.g. a Senator beer bottle of 300ml) cost approximately UGX2500 [US$0.62].	Bars, supermarkets, retail shops	Widespread availability and marketing
Flavoured and youth-oriented products	Sweetened spirits, flavoured products (e.g. Coffee Spirit, Kituzi, Kabisa Kombucha, Mukama n'ayamba), ciders	Products described as attractive to young people due to sweetness, additives (coffee, kombucha) and attractive packaging	Bright packaging and small bottle formats (some looking like juice bottles)	The smallest bottles were reported as extremely affordable (e.g. UGX200, US$0.05); Coffee Spirit sold for UGX2500 [US$0.62]	Shops, bars, kiosks, roadside vendors	Perceived appeal to adolescents and young adults
Substitute products following sachet bans	Small bottled spirits, repackaged spirits, tot packs	Small-format alcohol products reported to have increased following sachet restrictions	Miniature bottles and other low-volume containers	Maintained affordability after sachet bans	Shops, kiosks, roadside vendors	Continued accessibility and adaptation of alcohol markets following regulation

Note: Categories represent analytical summaries of products discussed across focus group discussions. Some products may sit across more than one category because participant descriptions sometimes blurred distinctions between formal and informal, recorded and unrecorded, local, flavoured, and commercial alcohol products. Product descriptions, prices, packaging formats, and reported characteristics reflect participant perceptions and discussions and were not independently verified. Reported prices were approximate and may have varied by location, packaging size, and point of sale. Product names reflect local terminology used by participants and may vary across regions and communities.

Supplementary Figure 1. Illustrative photos of selected products in Malawi and Uganda

Those product images were taken informally by the research teams with verbal consent from local sellers in Malawi and Uganda, after the focus groups were conducted, in the same areas.



Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- supplementaryfigure1.jpg
- Supplementarymaterial.docx