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# ARTICLE IN PRESS

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# "We improved our life because I cut my drinking": Qualitative analysis of a brief intervention for people with alcohol use disorder in Ethiopian primary health care

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#### ABSTRACT

*Background:* Despite global recommendations that brief, task-shared interventions are effective for addressing problematic alcohol use in primary health care (PHC), low-income countries have made few attempts to implement and scale-up these interventions.

Aim: To explore perspectives and experiences of service users and providers on a brief intervention (BI) for alcohol use disorders (AUDs) delivered by nonspecialist health workers who are health officers and clinical nurses in PHC in a rural Ethiopian district.

Methods: The study team conducted a qualitative study, comprising in-depth interviews with 26 purposively selected participants. The participants were 14 people who had been screened for probable AUD and were receiving the brief intervention; four caregivers without any intervention; and eight nonspecialist health workers who provided a single session brief intervention at four primary care health centers in Sodo district, south Ethiopia. The study used framework analysis. We grouped findings into five themes: acceptability, engagement in and barriers to care, implementation of the service, perceived impact of the BI, and unmet needs and expectations.

Results: Participants perceived the intervention to be useful, and it was well-accepted by most service users and relatives. Participants reported reductions in alcohol consumption and benefits in terms of their capacity to work, increased earnings, less money wasted, and ability to provide for their families. However, most did not attend follow-up visits, often influenced by the belief that they did not have a serious problem and could handle it alone. Some did not believe AUDs to be treatable; others did not attend because of lack of money for transportation and stigma from peers. Providing BI did not affect PHC workers' routine work. However, they noticed a reluctance from people with probable AUD to speak openly about their drinking, and they were constrained by a shortage of space. They recommended training and involvement from community members, leaders, and health extension workers to raise awareness, increase acceptability, refer cases, and reduce stigma.

Conclusion: The brief intervention that nonspecialist health workers in PHC delivered was acceptable, feasible, and perceived to have positive benefits. To extend the impact of the intervention, the community needs to be involved to address low awareness and to tackle stigma.

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#### 1. Introduction

Excessive alcohol use causes substantial harm to one's physical and mental health, and it has social consequences (WHO, 2014, 2018). The World Health Organization (WHO) recommends screening and brief interventions (SBI) to reduce excessive alcohol consumption and address alcohol-related problems.

Brief interventions (BI) can be delivered in opportunistic settings like primary care or specialized (substance use treatment) settings (Babor et al., 2001; Treatment, 1999; WHO, 2008). The purpose of BI is to provide structured advice and support to help people with hazardous or harmful drinking patterns to understand the risks or adverse impacts of their drinking and explore possible ways to cut down their drinking and prevent harm. BI is structured according to the FRAMES approach (Miller & Sanchez, 1994), which encompasses Feedback about existing consumption; Responsibility for change; Advice about practical strategies to reduce drinking; a Menu of options for behavior change; Empathic delivery; and Self-efficacy building (Babor et al., 2001).

A number of systematic reviews and meta-analyses have shown BI delivered within primary health care (PHC) settings to be effective in reducing excessive alcohol consumption (Angus et al., 2014; Kaner et al., 2007; Kaner et al., 2018). Despite this finding, only a small percentage of the people who may benefit from this intervention receive it, even in well-resourced settings (Brown et al., 2016). This small percentage suggests that barriers exist for use of BI for AUDs in primary care. The barriers encountered in well-resourced settings are related to the nature of the intervention, the external environment, available resources, implementation infrastructure, individual characteristics (the provider and the recipient), and the process of implementation (Johnson et al., 2010). We know little about the barriers to implementation in lowincome countries (Kaner et al., 2018; O'Donnell et al., 2013; Suasnabar & Walters, 2020), even though many potentially relevant contextual differences exist, including explanatory models of AUDs, help-seeking behaviors, the professional training of health workers, and the structure of the health system.

Ethiopia has a high prevalence of problematic alcohol use in its population, with an estimated 12.4% (20.5% of males and 2.7% of females) of its population heavy episodic drinkers (Getachew et al., 2017). About one in seven people (13.9% overall; 25.8% in men and 2.4% in women) in the setting (Sodo district, south-central Ethiopia) had probable AUD (Zewdu et al., 2019). Homemade alcoholic drinks in the setting include tella (alcohol content 2–4%), a local beer made from various grains (sorghum, barley, wheat, or maize) and dried shiny-leaf buckthorn leaves (Gesho in Amharic), which are used for fermentation. Another homemade alcoholic beverage is Tejj (honey wine or mead with an alcohol content of 7–11%), which is prepared from honey, water, and shiny-leaf buckthorn leaves (Gesho); a third homemade drink is areqi, which is a distilled liquor from different grains with an alcohol content of 45% (Fekadu et al., 2007).

These drinks are consumed at home during social and religious events and holidays, while farming, and on market days. Farmers who go to the market to sell their goods will end up drinking in the traditional bars. These beverages are also sold in traditional establishments called *mesheta bet* or *tejj bet* or *tella bet* or *areqi bet* (32). In 2014, the district had 22 *tejj bets* and 50 *areqi and tella bets* (Selamu et al., 2015).

Ethiopia has a limited number of specialist services for people with AUD (Teferra, 2018). For example, the study site, Sodo district, had no specialist mental health or alcohol treatment services (Fekadu et al., 2016); people had to travel to the neighboring district for out-patient psychiatric care or to Addis Ababa (the capital of the country) to access specialist alcohol treatment services.

Sodo district has eight health centers, with eight to 24 health professionals per facility, such as nurses, midwives, and health officers but no medical doctors. At the time of the study, the average number of people that each health center served was about 40,000 in urban health centers and 15–20,000 in rural centers. Each health centers has three to

five health posts (the lowest in the health care tier) linked to it, staffed by community health extension workers (Hanlon et al., 2014).

Therefore, a need exists to expand access to low-intensity, locally available interventions for AUD, such as BI. We aimed to qualitatively explore service users' and health care providers' experiences with and perspectives of the acceptability, implementation, and impact of a pilot study of BI in PHC in a rural Ethiopian district.

#### 2. Methods

### 2.1. Design and setting

This study was part of a larger implementation research study, the Program for Improving Mental Health CarE (PRIME) (Lund et al., 2012). PRIME was a multi-country research program aimed at generating evidence on the implementation and scaling up of integrated mental health care within primary care, using existing health professionals in a tasksharing approach. Five low- and middle-income countries, including Ethiopia, India, Nepal, Uganda, and South Africa, were PRIME sites. PRIME had a partnership with the UK, WHO, nongovernmental organizations, academic institutions, and the ministry of health in each country. The priority conditions included were psychosis, epilepsy. alcohol use disorder, and depression, including maternal depression (Baron et al., 2018; De Silva et al., 2016; Fekadu et al., 2016; Lund et al., 2012). The study evaluated district-level mental health care plans (MHCPs) for priority mental health conditions at district, community, facility and individual levels using different methods. The study evaluated the clinical, social and economic outcomes of people with the priority disorders who engaged with care using intervention cohort studies to demonstrate whether task-shared, evidence-based treatments are feasible and can be beneficial when delivered in these settings.

The study team carried out in Sodo district a nested qualitative study utilizing a phenomenological approach. Sodo is a rural district with different climatic zones and is the second most populous district in the SNNP region. The most recent population estimates indicated a population size of around 160,000. The district is divided into 58 administrative sub-districts (*kebeles*). The majority (97.0%) of the population is Orthodox Christian, from the Gurage ethnic group (85.3%), and engaged mostly in subsistence farming (Hanlon et al., 2014). Specialist treatment was not available in the study setting. However, a psychiatric nurse unit was available in the neighboring district, which could provide emergency alcohol detoxification with input from medical staff. For more specialist treatment, e.g., psychological and group therapies, the nearest facilities were in the capital city, Addis Ababa, which is 100 km from the study site.

#### 2.2. Recruitment and measures

The study screened primary care patients who were 18 years old and above, living in the district for at least six months, and who attended the health centers from August to November 2015 using NIAAA's Single Question Screen that asks whether they had alcohol above the NIAAA's moderate risk amount in the past 12 months. All who answered yes (n =214) on the initial screening question were then screened for probable AUD by trained PHC staff using the Alcohol Use Disorder Identification Tool (AUDIT). The AUDIT is a 10-item screening tool developed by the WHO (Saunders et al., 1993) that assesses alcohol consumption in terms of standard number of drinks, drinking behaviors, and alcohol-related problems. The study rated each item on a five-point scale, with the total score ranging from 0 to 40. A score of eight or more on the AUDIT indicates probable AUD. A score of 8-15 indicates hazardous alcohol use, 16-19 indicates harmful alcohol use, and a score of 20 or above indicates probable alcohol dependence and requires further diagnostic assessment (Chishinga et al., 2011; Myer et al., 2008; Saunders et al.,

The study recruited into the PRIME cohort (Baron et al., 2018) study

those who gave consent and who scored eight or above on the AUDIT (n=49). The individuals then received a single session of BI delivered by nonspecialist health care workers in PHC. We assessed the intervention effect quantitatively at 3 and 12 months post-intervention and will report these results in a separate paper. We evaluated the intervention qualitatively after 12 months.

The study population comprised 14 adults with a probable AUD in the Sodo district who received a BI for AUD, their relatives (four spouses/family members who lived with the participants with no intervention), seven non-specialist PHC health workers (nurses and health officers) who delivered the BI, and a mental health nurse, whose role was to evaluate people who may need medication and refer cases for inpatient detoxification or more specialist treatment if needed. The study purposively selected participants with probable AUD, based on a mixed level of service engagement, mixed demographic characteristics, and pattern of drinking (baseline AUDIT score).

#### 2.3. The intervention

We trained nonspecialist PHC health workers for two weeks with the WHO mental health Gap Action Program (mhGAP training) in evidence-based guidelines (Organization, 2008); these health care workers received additional training about a stepped care approach of screening, BI, and referral to provide care for people with AUD. After training, nonspecialist PHC workers, who were clinical nurses and health officers, provided a single session of BI in the PHC outpatient clinic. They administered the BI while delivering outpatient primary care as part of routine health care.

#### 2.4. Data collection

SZ (a female PhD fellow) conducted the interviews using a semi-structured topic guide developed by PRIME. PRIME researchers prepared the topic guide, based on the outcome and objective of the study for each priority disorder and the implementation process. The interview topic guide for service users explored: their perceptions about AUD and its causes; experience with BI; help-seeking; change in alcohol use; perceived impact on their economic status, relationships, functioning; unmet needs and expectations after receiving the intervention; reasons for not engaging with the service (barriers); and acceptability, usefulness, affordability, feasibility, and sustainability of care.

The topic guide for intervention providers explored: their perceptions of the training and the process of implementing BI; challenges they faced while delivering BI; their opinion about providing screening and BI for alcohol in PHC; potential sustainability; and their views on how the service could be improved.

SZ conducted the interviews in Amharic, the official language of the country and the region, in a location that was private and comfortable for respondents; each interviewee was interviewed on their own. SZ interviewed most of the respondents with probable AUD and their caregivers at their home or farm, and interviewed a few (four) at a nearby health center. The study staff interviewed the nonspecialist PHC workers at their workplace. The interviews sought information about direct, personal experiences. All interviews were audio-recorded after informed consent had been obtained. For those who came to the health center, the study paid them 50 Ethiopian Birr (equivalent to 2 US\$) to cover transportation costs and to compensate them for their time.

# 2.5. Data processing, management, and analysis

The audio files were transcribed in Amharic and translated verbatim into English. The study used framework analysis (Ritchie & Spencer, 2002). We selected this approach because it is suitable for studies that use interview methods, have narrowly focused objectives, and have structured topic guides. This approach will help us to generate themes by making comparisons within and between cases. Such an approach is

also not aligned to any particular epistemological, philosophical or theoretical approach, and can be used with a range of qualitative approaches (Gale et al., 2013). Framework analysis was developed by Jane Ritchie and Liz Spencer in the 1980s in the United Kingdom for use in large-scale policy research, and researchers now use it widely in health research. In the framework analysis, the researcher can manage, analyze, and identify themes from a large volume of text-based data through a systematic structure (Matrix). A matrix is a spreadsheet that contains rows with cases, columns with codes, and cells with summarized data.

Framework analysis consists of distinct, but highly, interconnected stages including familiarization, coding, developing a framework, indexing (applying the framework), charting data in the framework matrix, and interpretation. In the first stage, the researcher makes herself/himself familiarized with the transcripts and gains an overview. This stage involves immersion in the data: listening to tapes, reading transcripts, studying observational notes. The next stage is coding: the researcher reads the transcript and labels or gives a code. The researcher uses notes, which are taken during data review, to identify the key issues, concepts, and themes, after which he/she will identify the thematic framework. The thematic frameworks are formed based on a priori issues (the aim of the research), emergent issues that participants raise, and analytical themes arising from the recurrence or patterning of particular views or experiences. This stage involves making judgments about meaning, about the relevance and importance of issues, about implicit connections between ideas and needs, evaluating whether the data full address the original research questions. In the indexing stage, the researcher identifies a portion of the data that belongs to a particular theme. During charting, pieces of the indexed data are arranged in charts of themes. A spreadsheet helps the researcher to generate a matrix and the data are "charted" into the matrix. Charting involves summarizing the data by category from each transcript. Mapping and interpretation is the final stage in which the researcher pulls key characteristics together to map and interpret the dataset as a whole.

In this study, initially, SZ familiarized herself with the data by reading through the transcripts. Using OpenCode version 4.02 (Open-Code, 2015) software and a pre-existing coding framework that was informed by implementation processes and outcomes and the researchers' contextual knowledge, SZ coded three transcripts. CH reviewed the list of codes and checked the consistency of codes against the data and the framework, SZ and CH discussed the framework, adapted it, and agreed on the final codebook for analysis. Then SZ coded all transcripts using the coding framework and existing codes, adding in new codes where relevant. SZ summarized the data using charting. Finally, we interpreted and reported the summarized data. The study team conducted periodic team meetings to facilitate critical exploration of participants' responses, discussion of deviant cases, and agreement on themes. We used the consolidated criteria for reporting qualitative research (COREQ) (Tong et al., 2007), a 32-item checklist for interviews and focus groups, for reporting (Supplementary file 1).

#### 3. Results

## 3.1. Characteristics of participants

Study staff approached a total of 33 people for an interview. Of these, we did not interview seven service users (6 people with probable AUD and a relative [wife]). Two of them refused to be interviewed, two were no longer traceable in the town, and three (people with probable AUD) were not available at their home during multiple attempts to visit them.

Study staff interviewed all the nonspecialists PHC workers approached. We conducted in-depth interviews with 14 participants with probable AUD who were receiving BI, and four caregivers and eight health workers in PHC who were providing BI. The interviews lasted from 14 to 60 min for participants with probable AUD, 7 to 22 min for caregivers, and 9 to 28 min for PHC workers.

The age of participants with probable AUD ranged between 27 and 67 years. The majority of participants were male, farmers, married, and had no formal education (Table 1). Only four participants had contacted providers for follow-up after the first BI.

All caregivers of people who had probable AUD were women living in rural areas and were younger than 35. Three were housewives, and one was a student and a sister of one of the participants with probable AUD. The work experience of service providers ranged from three to 39 years. Most of the providers were clinical nurses, two were health officers, and one was a psychiatric nurse (Table 1).

We found two separate themes. One was the explanatory model and reasons for drinking reported by service users, and the other was perceptions of and experiences with the BI. We categorized the second theme, based on the target population (service users and providers), into 11 subthemes (see Table 2).

#### 3.2. Explanatory model and reasons for drinking

Participants (people with probable AUD) named problematic alcohol use as an "addiction" ('Sus' in Amharic). Almost none of the service users considered addiction to be a disease, but instead, a simple habit or a character flaw, which a person could stop without any help "...it is a habit but it is not associated with health... It is possible to stop... It didn't catch you without touching it".

Most of the participants were farmers, and they considered alcohol, especially the local spirit *areqi*, as a way to get energy and strength while farming and to take their mind off the toil, as illustrated by one of the participants, "We can say Areqi is benzene. A car cannot move without benzene, and Areqi is benzene...and I drink to cope with the hard work, because of frustration and the harm of the burn due to over sweatiness".

**Table 1**Characteristics of participants.

		No of People with probable AUD	No of caregivers
Sex	Female	1	4
	Male	13	0
Age	<26	0	1
	26-35	5	3
	36-45	3	0
	46-55	2	0
	>55	4	0
Education	Non-literate	4	2
	able to read and write	5	1
	1–8 years of formal education	4	1
	12 years education	1	0
Marital status	Married	11	3
	Single	2	1
	Widowed	1	0
Residence	Urban	5	0
	Rural	9	4
Occupation	Farmer	9	0
	Self-employed	2	0
	Pensioner	1	0
	Housewife	1	3
	Government- employed	1	0
	Student	0	1
Number of service			
providers			
Sex	Male	6	
01:0:+:	Female	2	
Qualification	Nurses	5	
	Health officer	2	
TATouls assessed as	Psychiatry nurse	1 3	
Work experience	<5 5–10		
(years)		3	
	>10	2	

AUD- alcohol use disorder.

Table 2
Themes.

Main themes		Subthemes
Explanatory model and reasons for drink		
Perception and experiences	Service users and caregivers	1. Acceptability
of the brief intervention		2. Ongoing engagement in
		care and barriers
		3. Sustainability
		4. Impact of the intervention
		■ Impact on alcohol use and
		associated health problems
		■ Impact of the intervention
		5. Unmet needs
	Service provider	Acceptability
		2. Feasibility
		3. Quality of care
		4. Experienced challenges
		5. Perception about Impact of
		the intervention
		6. Views on how the service
		needed to be improved

(AUD-pt-10, male).

For some, alcohol was a means for facilitating trade: "Indeed alcohol is becoming a means to network nowadays... if you want somebody for business, the only place you get him is in a drinking house. I can quit, but if I did not buy to my guests [traders], they will not trust me or accept me". (AUD-pt-7, male).

Participants also mentioned poverty as a reason for drinking:

"It [alcohol addiction] is not a health problem; I think it is poverty! When you are deprived of what you want, you will go to that [drinking alcohol]. For example, I failed in my education, and I also lost many things. I do it [drink alcohol] for hiding [from my problems] .... If I did not drink or searched for another solution for my problems, I would have been a successful person. But I entered to it [drinking alcohol] thinking as a solution, and I am swimming in it now".

(AUD-pt-2, male)

Some participants reported that the culture of the community, peer pressure, and social life led them to drink. One participant said:

"If I could stop drinking completely, it is good for me. However, everybody looks like a neighbor. There is a proverb that we call, "unless you can socialize, leave the place."; What is made in our area are areqi and tella. Because our work is just farming, it seems difficult to stop Areqi".

(AUD-pt-10, male)

One participant used Christianity to stop drinking alcohol, but he returned to drinking because of his friends. As his wife described, "when he stopped for two years, he started to take care of his family in a better way. Now because of some friends, he started it [drinking again]. They told him that I controlled him. Now, his mind does not work properly." (CG-2, wife of AUD-pt-10).

All participants agreed that the harm of drinking alcohol outweighed its benefits. Intervention providers also mentioned that culture and bad role models were some of the reasons for the wide use of alcohol, illustrated by the following quotes:

"The great invitation in the community is drinking alcohol. To give respect for a guest the great invitation is giving alcohol. This culture may lead some to addiction."

(PHC-worker-5)

PHC workers noted that participants must work on their drinking first and then tackle other mental and physical health problems; they perceived alcohol as a key risk factor for all physical and mental health

problems treated in their institution.

Caregivers of people with probable AUD (wives) explained that alcohol problems were a moral failure. One wife forced her husband to change his religion and threatened to file for divorce if he did not stop drinking.

#### 3.3. Perception and experiences of the brief intervention delivered in PHC

We present the participants' perceptions of and experiences with the BI delivered in PHC, based on the target population and 11 subthemes (Table 2).

#### 3.3.1. Service users and caregivers

3.3.1.1. Acceptability. Respondents with probable AUD did not worry about the competence of professionals. None of the service users mentioned concerns about the quality of care. Most of the participants with a probable AUD reported that the BI had been useful. As one participant said:

"It was very competent care, and I believed in them. I know that they can solve my problems. If I asked them, they can give me an answer. In addition, because they told me to come back if I needed [more] advice, I came here when I became anxious".

(AUD-pt-2, male)

Participants tended not to be convinced at first, but after some time of reflection, they developed faith in the intervention and started to follow the advice of providers, as illustrated by the following quote:

"First, I did not accept it. I did not believe [in it]. However, after some time, I analyzed [thought about] it, I realized that it [alcohol] is harmful. Then after, I accepted it [the advice], and started to reduce [the amount I was drinking] and finally I quit drinking. Now I live a good life".

(AUD-pt-1, male)

A few participants, including one relative (a wife), reported that professional help was not necessary or that alcohol problems could not be treated or cured at the health center and that the decision to help oneself may be the only way to overcome alcohol addiction.

"Can it [addiction] be removed by advice? I will not accept if somebody told me to stop. No, it [addiction] cannot [be cured with medicine]. If we want to cut it, we can quit, it's by ourselves if we want to drink, and we will drink by ourselves".

(AUD-pt-8, male)

Most participants were not bothered by the screening questions, the assessment process, or how they were informed that they had an alcohol problem or screened for suicidality. As one participant described, "I accepted every question they asked me... All was true". (AUD-pt-6, male).

None of the participants with probable AUD had sought professional help before. Two participants had previously sought help from religious places and reported that the advice they obtained was similar. Their main reason for seeking help at the health facility was not to stop drinking but for anxiety symptoms, secondary to drinking. None of the respondents reported minding whether they saw the same PHC worker during follow-up. They also did not doubt the competence of the providers, and they did not report experiencing stigma or discrimination in the health center.

3.3.1.2. Ongoing engagement in care and barriers. Although many respondents with AUD—except participants who had a comorbid physical (tuberculosis) or mental health conditions (anxiety, mental distress and sleep problem, epilepsy)—agreed that the intervention was appropriate,

many participants did not come for follow-ups. The most common reason for not attending follow-up visits was that they did not think that they had a serious problem and preferred to handle their drinking themselves. As one man explained:

"I am not in trouble that much. I can quit. I have nothing to worry. If it occurs I will go, but going there is wasting time now without any reason".

(AUD-pt-7, male)

Participants also expressed the view that alcohol problems were not treatable in a health care setting; rather the only way to quit was through self-discipline (n = 5). "I, myself, by myself can stop". (AUD-pt-12, male).

For others, shortage of money (n=2) and experiencing stigmatizing attitudes from their peers or fellow edir (n=2) members (an indigenous community welfare system for supporting surviving family members when a member of the community is deceased) were the reasons for their absence. When the study asked them about getting treatment for AUD at the health center in the future, almost all responded that they would be happy to get treatment, but most of them also did not believe that alcohol problems or addiction were treatable in a health center.

3.3.1.3. Sustainability. One participant, who was taking medication for sleep problems secondary to alcohol withdrawal, was worried about the sustainability of the service because he saw people from the new integrated mental health service who had stopped their medication due to an erratic supply.

#### *3.3.1.4. Impact of the intervention*

3.3.1.4.1. Perceived impact on alcohol use and associated health problems. Some of the participants with probable AUD and all caregivers of those with probable AUD reported that, after receiving the intervention, participants had decreased the amount of alcohol they were drinking.

"After the advice, I started to say enough and I only drink two 'melekiya' [glasses used for drinking spirits]. When they invite me to add more I started to say no"!

(AUD-pt-14, male)

Some (n = 4) participants reported that they had stopped drinking altogether. One participant said: "I thank the doctor because he made me free from addiction. Now, I fully accepted doctors' advice and the service improved my life". (AUD-pt-1, male).

Some respondents who said they did not think they had received an intervention decreased the amount and frequency of their drinking after the BI, according to their caregivers. Some respondents reported that some health problems and symptoms had improved after they reduced alcohol consumption, including mental distress, forgetfulness, sleep problems, seizures, fatigue, poor appetite, and attention problems.

3.3.1.4.2. Perceived impact of the intervention on function. Some of the participants who had comorbid conditions (four participants with TB, epilepsy, mental distress, anxiety) reported improved functioning, and they reported positive changes in work performance after they received the intervention. Two relatives (wives) also reported a change in their partners' work performance.

"Now I am doing better at work and I also handle people in a good way during work. Now I can complete a task which used to take 3 days in a half day. No work is left for tomorrow". (AUD-pt-2, male).

Many participants with probable AUD reported some change in their income status after they received the intervention. One of the participants noted that he stopped asking people for money and started to help some of his friends when they were in need. He linked his change with better performance, and he started participating in "*ekub*", a local money saving group.

"I have profited, what I am doing at home is also nice. Previously, I was distressed, I could not even work, my work had no profit and I was distressed. But now, thanks to God, I get profit from work and I can feed my children".

(AUD-pt-4, female)

"Previously my salary was wasted to alcohol, but now, thanks to God, I cover my household expenditure. I also send benefits from my work place to home. Previously I was wasting it for alcohol. Now it is corrected. We increased kilos of wheat and 'teff' from 25 to 40-50 kg per month because money that was wasted by my alcohol use is saved. This is a big change. We improved our life because I cut my drinking. Previously my children may skip their dinner if they eat their lunch".

(AUD-pt-1, male)

Some participants with probable AUD reported that the BI they received helped them to be aware of the health risks of drinking alcohol and one participant noted that the advice made him live more carefully than he had been.

3.3.1.5. Unmet needs. One participant was expecting more change or benefit, including financial help, and he was not happy with the intervention. He linked his ongoing drinking with his poverty; he said: "Advice can reduce some bad behavior, but as long as my economic status is low... it is difficult to stop drinking alcohol completely".

#### 3.4. Service providers

#### 3.4.1. Acceptability

The providers reported being very happy with the training. They underlined the seriousness of AUD in the community and the appropriateness of the intervention. However, they believed that participants did not accept the intervention; rather they perceived that the participants just appeared to accept their advice to please them.

#### 3.4.2. Feasibility

Nonspecialist health workers in PHC reported that delivering BI did not significantly affect the rest of their work. However, a shortage of space did exist, because the patient flow in the outpatient clinics increased due to the introduction of community-based health insurance. Some PHC workers reported that a few patients had to wait outside for a long time while they delivered the BI. No health care workers mentioned referring cases for specialist treatment.

#### 3.4.3. Challenges

One of the intervention providers reported that some patients thought that he was trying to persuade them to convert to Protestantism (which, in this setting, is associated with strongly held beliefs against drinking alcohol), when he was giving the BI. Another PHC worker reported a similar experience:

"When we tell them as it is possible to be cured of it, they associate with other religious cases...they [patients]insist to debate why the bible allows it if it causes a disease".

(PHC-worker-6)

Most of the nonspecialist PHC workers did not report difficulties with estimating the alcohol content in drinks, but one provider reported that he found it difficult to work out the number of alcohol units in local drinks because it was different from place to place.

All nonspecialist PHC workers mentioned that patients lacked openness to talk about their drinking, and they suspected that patients hid the true amount that they were drinking. One of the providers even reported that she had never identified a person with AUD because all clients hid the amount and frequency of their drinking. Most of the

providers believed that patients did not consider AUD to be a disease and, therefore, dropped out of care.

"Their reaction somewhat worried us. It is not as such serious. They accept when you clearly discus with them. However, initially, they try to insist on you by saying, 'I am the responsible one for my life. I am drinking with my own income. You did not invite me or pay for me. I do not disturb anyone.' Even if you are going to tell [them] the physical impact, they hear you inattentively or half-mind ...they forget what they told you. They are not similar to other cases... whatever advice you give them they turned back to their previous behavior".

(PHC-worker-6)

# 3.4.4. Quality of care

According to the mental health worker at the study site and the other PHC workers, none of the providers referred eligible cases to Butajjira or Addis Ababa for specialist treatment. The mental health worker was concerned with the quality of screening and the intervention. This participant reported that nonspecialist health workers without adequate training and skills were incorrectly referred cases for evaluation. According to this mental health worker, "If quality work is needed, it must be done only by trained persons". However, these workers did not raise any safety concerns.

#### 3.4.5. Perception about the impact of the intervention

All the PHC providers reported that the training had changed their awareness about alcohol. It gave them knowledge about how to assess a person, calculate alcohol units in a drink, make a diagnosis, and manage AUD. They also noted that it gave them the confidence to talk about alcohol with people attending the PHC facility. They all agreed that the intervention was appropriate. Two nonspecialist PHC workers reported that the intervention helped them to create awareness among their clients. However, most service providers were not satisfied with the intervention. They felt that the scope and impact of the BI on AUD were limited.

"The impact was not as such I always think why more intervention was not done with alcohol. The intervention is wide in other cases; I do not think there was a good intervention for alcoholics".

(PHC-worker-4)

However, a mental health worker did not agree with this. As he said, the intervention had an impact on awareness: "This is not questionable. Even awareness creation is a big thing".

# 3.4.6. Views on how the service needed to be improved

The nonspecialist PHC workers had several ideas for improving the intervention. Most of the service providers strongly recommended working with the community. One said:

"It is better to do it in collaboration with the community. Like psychosis and depression, it will give good result with community involvement. If they had a strong relationship with community, I think it will be successful".

(PHC worker-2)

Some health workers recommended that community assessment would be a better approach, as there was low acceptance from people with AUD making them unlikely to go to the clinic. They also suggested that the health extension workers (HEWs) should bring cases to health facilities. This, however, would need additional funding to pay health workers to travel to and from the community.

PHC workers also recommended that community-awareness creation mechanisms needed to be implemented. As one participants said, "It better to educate a role model in the community. There are some change

agents in the community (edir judges, fathers, mothers, 1 to 5 leaders). It is better to use them. Yes, it is better to give the training for them and allow them to teach the community in every edir or other community meetings". (PHCworker-3)

PHC workers also mentioned the need for continuous training about alcohol. Providers observed that giving money for transport fees to patients could prevent absenteeism from appointments. These participants also indicated that it would take effective administrative systems to implement the intervention.

#### 4. Discussion

People with probable AUD reported that they had decreased their drinking, and a few had stopped drinking after the intervention. Participants reported positive changes in their work performance, increased earnings, improved savings, better household food security, and benefits for their children. These findings are in line with quantitative findings from other LMICs studies in Nepal (Luitel et al., 2020) and India (Nadkarni & Weiss, 2019; Nadkarni, Weiss, et al., 2017; Nadkarni, Weobong, et al., 2017).

Most participants reported that the intervention was appropriate, useful, and beneficial. They also reported that the intervention was feasible, especially participants who had AUD and comorbid health conditions.

Respondents with probable AUD were not concerned about the quality of care or the competence of professionals. Unlike findings from Nepal (Luitel et al., 2020), service users reported that they were not bothered by seeing different professionals at different visit times (continuity of care), which is one of the factors that decreased satisfaction in other studies. Service users did not have concerns about health workers' competence or stigma from service providers.

Providers noted that the training increased their knowledge about AUD, diagnosis, and management. However, they felt that the impact of the intervention for treating AUD was limited due to lower acceptability by clients, lack of openness to speak about alcohol, difficulty in establishing rapport, and shortage of space in the health facility.

Implementation climate, in this case, the PHC facility, affects the implementation of an intervention (Damschroder et al., 2009). Compatibility also helped the intervention to be applied. Compatibility is the degree of harmony among values attached to the intervention by involved individuals; how those values align with individuals' norms, values, and perceived risks and needs; and how the intervention fits with the existing workflows and systems. Though our study did not include stakeholders (leaders) other than the PHC care providers, providers were enthusiastic about giving the BI.

Providers reported that the intervention did not affect their routine work, but they recognized that delivering the BI increased waiting times for some patients. Contrary to previous reports (Johnson et al., 2010), we did not find a shortage of time and workload as barriers to delivering the BI. However, a shortage of space in the health facilities did exist, because of the recent introduction of community-based health insurance that causes an increased flow of patients to the clinic.

Characteristics of individuals (implementers) may also affect implementation (Damschroder et al., 2009). Most of the PHC workers expressed motivation to provide the intervention because of the perception that AUDs were a big problem in the community. However, like others have reported elsewhere, PHW workers mentioned inadequate training (Babor et al., 2001; Johnson et al., 2010), lack of openness from people with probable AUD (Beich et al., 2002), and difficulty establishing rapport with the clients as barriers for implementation.

Though people with AUD agreed on the usefulness of the intervention, they did not come for follow-ups. Participants' dropout from care was most often linked to their beliefs about the cause for their alcohol problem, perceived control over the condition, which might be associated with their stage of change (Damschroder et al., 2009; Prochaska & DiClemente, 2005), or lack of awareness. A few reported that lack of

money for transportation and stigma from the peer were reasons for dropping out.

Service users perceived AUD to be a character problem. Some participants associated their alcohol problem with their social life and culture of the community, especially *edir* during which alcohol is consumed for about one week when family members are mourning the loss of a loved one. Peer pressure was also an important societal driver of alcohol consumption. One participant used alcohol and the social networks found in the drinking houses as a means to facilitate trade. Like participants in the PRIME study from Uganda (Ssebunnya et al., 2020), some participants reported that they used alcohol as a way of dealing with frustrations due to failures and an escape from poverty and stress. Some reported that alcohol helped them to get energy and strength during farming.

Service providers agreed on the seriousness of AUD in the community and noted that role models in the community played an important role in the widespread occurrence of AUDs. Like other studies from low-income countries (Ssebunnya et al., 2020), none of the participants with probable AUDs had sought professional help for alcohol problems previously. Only a few participants had sought help from religious places.

The process of implementation, including engaging, executing, reflecting, and evaluating, can also affect the success of implementation. Although some the participants had probable dependence, no health care workers referred dependent cases for specialist treatment. The networks and communications among providers in PHC must be strengthened to implement the BI as intended. Our findings indicate that more intense supervision is required to ensure adherence to the intervention. In our study, PHC workers strongly recommended the involvement of health extension workers and community leaders (engaging) in the implementation of the SBI.

This study has several limitations. Homemade alcoholic drinks may vary in alcohol content. This study used the AUDIT to screen for AUD; the AUDIT uses standard drinks, so our results may have been affected. We do not have the total number of clients that each PHC staff treated over 12 months. Social desirability and recall bias might have influenced the response of service providers and users. Purposive sampling may have also affected the results. Our sample lacked women respondents, which may limit the generalizability of the findings for women in similar settings. We did not develop our research questions with the CFIR in mind. We used CIFR for the discussion. Aligning the study with an implementation framework from the beginning would have been preferable.

Nevertheless, this study is one of only a few studies carried out in a low-income country that explored the experiences and perspectives of service users who received a pilot BI, their caregivers, and health care providers on the impact, acceptability, and implementation of a brief alcohol intervention delivered by nonspecialist health workers in PHC. Similar to previous studies (Johnson et al., 2010; Petersen Williams et al., 2015), the barriers to implementation were patient-related factors, including lack of awareness and lack of an explanatory model for AUD, lack of openness about one's drinking, socioeconomic problems, and stigma. Service provider reported lack of acceptance among patients, inadequate skill, and inability to create a therapeutic alliance as barriers to implementation. System-related challenges for integration were lack of space and a clear referral system. Participants mentioned facilitators of the implementation process, including ongoing training of health workers, the involvement of HEWs and the community in the process, and the establishment of an administrative body to support AUD management.

### 4.1. Conclusions

The BI delivered at PHC by nonspecialist health workers was feasible, acceptable, and beneficial. Participants reported that the BI resulted in a reduction of alcohol consumption and improved functioning. Our findings indicate that there is a need to address community awareness about

AUD and related stigma, and increase PHC workers' skills. Policy-makers, service planners, and other stakeholders need to prioritize training and provide frequent supervision for nonspecialist health workers at PHC about the management of AUDs. Researchers should replicate this study among service users, providers, service administrators, and other stakeholders in other parts of the country that implemented the brief alcohol intervention in PHC. Future studies should examine factors that affect help-seeking, treatment effectiveness, and acceptability of the intervention.

Supplementary data to this article can be found online at https://doi. org/10.1016/j.jsat.2021.108636.

#### **Ethical considerations**

Ethical approval was obtained from the Institutional Review Board of Addis Ababa University (ref 084/11/PSY). After adequate information had been provided, participants gave their written informed consent. If non-literate, participants gave a thumb print to signify consent. Privacy and confidentiality during data collection was maintained, and names of participants were not identified in any transcripts.

#### CRediT authorship contribution statement

AF, CH, GM, ST contributed to the design of the study. SZ collect and analyzed the data with support from CH and GM. SZ wrote the first draft. All authors contributed to interpretation of the findings and reviewed the full draft of the paper. All authors approved the final manuscript.

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# Declaration of competing interest

None.

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# ARTICLE IN PRESS

#### S. Zewdu et al.

Journal of Substance Abuse Treatment xxx (xxxx) xxx

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