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In search of social belonging: a qualitative study of drivers of alcohol use and barriers to alcohol reduction among pregnant women in South Africa

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Abstract

Background Alcohol use during pregnancy remains a major public health concern in South Africa, particularly in communities with entrenched historical, social, and structural drivers of harmful drinking. Saldanha Bay, a peri-urban fishing community in the Western Cape, has among the highest reported rates of fetal alcohol spectrum disorder globally. Understanding the multilevel social and structural dynamics that sustain alcohol use in pregnancy is essential to inform contextually appropriate interventions.

Methods Formative qualitative research to inform the adaptation of a peer-led intervention to reduce alcohol use during pregnancy was conducted between January and June 2025. We held two focus group discussions, one with healthcare providers ($n=6$) and one with community leaders ($n=7$) and conducted in-depth interviews with male partners of women who drank during pregnancy ($n=15$) and drinking peers (friends or family members; $n=16$). We purposively recruited participants with support of a long-standing community partner and through snow-ball sampling. Data were collected in Afrikaans and English using semi-structured guides, audio-recorded, transcribed, translated, and analyzed thematically using NVivo. Analysis followed an iterative coding and memoing process, and reporting adhered to COREQ guidelines.

Results Six interrelated themes emerged. First, couple-level dynamics, particularly male partner drinking, were perceived as the primary driver of continued alcohol use during pregnancy, with partner drinking heavily influencing maternal drinking behaviors. Trajectories ranged from mutual continuation to solidarity-driven reduction. Second, participants described that the need for social belonging and fear of isolation often outweighed pregnancy-related health motivations, especially in contexts where alcohol use is central to social life and pregnancies are unplanned. Third, intergenerational misinformation normalized and actively undermined medical advice during pregnancy and breastfeeding. Fourth, alcohol use functioned as a coping mechanism for stressors like poverty, violence, unplanned pregnancy, and partner absence; some participants described loss of control consistent with addiction. Fifth, there was strong expressed support for mentor-based interventions delivered by credible, relatable women with lived experience, ideally engaging partners and broader social networks. Sixth,

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participants emphasized that support should be community-based rather than clinic-based, combine group and individual support, and provide sustained engagement throughout pregnancy.

Conclusions Family, peers and partners closest to women who use alcohol in pregnancy describe how addressing these issues in this context will require moving beyond individual behavior change to address intersecting relational and structural factors. Effective interventions must engage male partners, debunk family level myths and misinformation, and utilize trusted peers in non-stigmatized spaces and community-centered delivery models with sustained community support.

Keywords Alcohol · HIV · Peer-led intervention · Pregnant and lactating women · Community-based approach · Qualitative work

Introduction

Exposure to alcohol during pregnancy or via breast milk is associated with numerous adverse fetal and infant health outcomes, including impaired fetal growth, miscarriage, fetal alcohol spectrum disorder (FASD), and stillbirth [1, 2]. Beyond fetal and infant harms, alcohol use can also compromise maternal health, particularly in high HIV burden communities. In these settings, alcohol use is associated with behaviors that increase incident HIV infection, including condomless sex and barriers to pre-exposure prophylaxis (PrEP) adherence [3–7] and among people living with HIV, alcohol is associated with non-adherence to antiretroviral therapy (ART) [8]. This is particularly concerning during the pregnancy and breastfeeding period, a time when women's biological susceptibility to incident HIV infection is heightened and when non-adherence and new infection increase rates of vertical transmission [9, 10], underscoring the importance of addressing alcohol use as part of HIV prevention and care efforts. Despite these health risks and evidence indicating that no level of alcohol use in pregnancy is “risk free,” perinatal alcohol use remains prevalent globally [11], with recent pooled estimates in the African region of 28.3% reporting any alcohol use during pregnancy [12].

Alcohol use, both overall and during pregnancy, varies substantially by geographic and social context, resulting in marked differences in its attributable public health impact. Globally the estimated prevalence of FASD among children and youth in the general population (aged 0–16.4 years in the underlying meta-analysis) is 7.7 per 1000; however, in South Africa, a country characterized by high per capita alcohol consumption, the rate is more than 14-times higher (111.1 per 1000 population) [13]. Within South Africa, the burden is particularly pronounced in the Western Cape, a region with high levels of alcohol use during pregnancy [14–17] and where FASD prevalence is estimated to range from 196 to 310 children per 1000 live births [18]. The magnitude of this burden in the Western Cape signals that alcohol use during pregnancy is not an individual anomaly, but a population-level phenomenon shaped by a complex web of contextual factors.

Historically, heavy and frequent alcohol use was normalized in the Western Cape through the colonial and apartheid era *dop* system, which allowed farmers and vineyard owners to pay their primarily Colored workforce with alcohol [19, 20]. Although this practice was formally banned, there are reports of limited persistence in some contexts; regardless, its effects continue through intergenerational transmission of norms, social practices, and lived experience [21]. In addition, the communities in this region experience high levels of poverty and unemployment which contribute to behavioral health issues including substance use [22]. Alcohol also plays a central role in socialization in many communities in the Western Cape of South Africa, making it not merely a component of social life but rather a central fixture of social events [23]. Finally, alcohol use in this setting is closely linked to HIV outcomes in pregnancy, functioning both as contributing towards increasing risk of incident HIV infection and as a prevalent behavior among women living with HIV [17, 24].

Prior work in the Western Cape found that 39.9% of pregnant women in the sample had biomarker corroborated alcohol use during pregnancy [25]. Further, prior qualitative work from South Africa suggests traditional gender norms around alcohol use, which used to be seen as favoring heavy use among men but not women, have

evolved to normalize frequent binge drinking among women and men alike [26]. Such norms may influence both women's drinking behaviors and the ways in which partners and peers respond to alcohol use during pregnancy. Compounding this challenge, many pregnancies in communities in the Western Cape of South Africa are unplanned and, in some cases, unwanted, and pregnant women may experience substantial stressors that contribute to coping related alcohol use [23]. Together, these dynamics point to key drivers of alcohol use during pregnancy in this setting that extend beyond the individual, including socially reinforced drinking norms, partner and peer influences, structural stressors such as poverty and unplanned pregnancy, and healthcare environments that may not adequately address alcohol use alongside HIV prevention and care in high HIV burden environments.

Despite the health consequences to both mother and child attributable to alcohol use during pregnancy and high prevalence of this behavior in South Africa, very few interventions have been tested to address this issue in this setting [27–33]. In addition, a comprehensive national FASD prevention program is currently lacking [34, 35]. Among the trials that have been completed - which have included use of text message based incentives to reduce perinatal use [29] and brief individual and group based behavioral counseling interventions [27, 28, 30–33], targeting alcohol and other drug use and sexual risk behaviors - effects on reducing alcohol use, generally and during pregnancy or the postpartum period specifically have been mixed [27–29]. Looking at the broader evidence on alcohol reduction interventions in sub-Saharan Africa, interventions with demonstrated effects have utilized evidence-based approaches such as motivational interviewing and cognitive behavioral therapy [36, 37]. However, the effect sizes have been modest, which may in part reflect a predominant focus on individual behavior change without addressing the social relationships and norms that sustain alcohol use during pregnancy.

A growing body of literature suggests that peer-based interventions can effectively support pregnant women and new mothers in adopting health promoting behaviors across a range of domains, including newborn screening, vaccination uptake, HIV prevention and care engagement, and treatment adherence [38–41]. Unlike healthcare provider-delivered behavior change interventions, mentor mother programs leverage trained peers with shared lived experience to provide ongoing emotional, informational, and practical support. These relationships can foster trust, reduce stigma, and improve engagement with health services and health-promoting behaviors [42, 43]. The Philani Plus intervention, a mentor mother program focused on addressing maternal and neonatal nutrition, HIV, TB and mental health in South Africa did incorporate a brief alcohol focused component. However, the alcohol related content was limited, and the intervention did not demonstrate an effect on alcohol use during the perinatal or postpartum period [28]. To date, mentor mother models have not been specifically designed or evaluated to support alcohol reduction during pregnancy in the African region. Before adapting a mentor mother intervention for this context, it is important to understand the perspectives of stakeholders across interpersonal, community, and healthcare settings who influence pregnant women's alcohol use and may support behavior change.

Given the intertwined epidemics of alcohol use and HIV in South Africa, effective interventions during pregnancy must extend beyond individual behavior change to address multilevel drivers of alcohol use that also shape sexual behaviors, prevention and treatment outcomes. Further, understanding who influences pregnant women and what shapes their decisions to use alcohol is essential. In our prior qualitative work with pregnant women who consumed alcohol during their most recent pregnancy in Cape Town, South Africa, women described multiple interpersonal, structural, and social factors influencing their alcohol use during pregnancy [23]. Interventions that fail to account for these broader social dynamics are unlikely to achieve meaningful or sustained impact. Building on this work, the present study complements prior findings by expanding the analytic lens to include perspectives of individuals who may influence alcohol use during pregnancy at the interpersonal (partners, peers, family members), community (community leaders), and structural (healthcare providers) levels, with the goal of informing adaptation of a community-based intervention to address alcohol use and HIV care and prevention outcomes.

Methods

Study setting

The overarching parent study, which has been described in detail previously [44] is being implemented in Saldanha Bay, Western Cape, South Africa, a region where the estimated prevalence of FASD ranging from 196 to 276 cases per 1,000 children (19.6%–27.6%) among children aged 5.8–11.3 years in the underlying study, representing one of the highest reported prevalence rates globally [18]. Saldanha Bay Local Municipality, a peri-urban/rural fishing community with a population of roughly 150,000 people, is a diverse community with apartheid era historical trauma underpinning patterns of alcohol use.

Data collection

This qualitative formative research was conducted as part of a larger mixed-methods randomized controlled trial (NCT06962592, registered 2025-05-08) and was used to adapt our intervention content and delivery for pregnant women in this context. All data were collected between January and June 2025. We conducted two in-person focus group discussions (FGD) with healthcare providers ($n=6$) and community leaders ($n=7$). The providers were purposively recruited from Saldanha Bay Municipality Clinics and Vredenburg Provincial Hospital while community leaders were identified with assistance from clinic staff, government officials and a locally based implementing partner organization, Foundation for Alcohol Related Research (FARR), which holds strong ties and a longstanding presence in the study community.

Individual in-depth interviews were conducted in person, one on one and included men whose partners drank during pregnancy (i.e. the biological father of a child exposed to perinatal alcohol use, $n=15$) and drinking peers (male or female friends or family members) of pregnant women, ($n=16$) (see supplemental files for guides which were developed specifically for this study). The implementing partner organization identified initial participants based on their time addressing alcohol in pregnancy in the community and snowball sampling was used to identify additional eligible persons. None of the individuals participating in the present study represent couple (dyad) data and were therefore not linked for analysis. Individual interviews and FGDs were conducted using semi-structured guides, and lasted approximately one hour. The FGDs and in-depth interviews explored multi-level drivers of alcohol use during pregnancy, including social norms and beliefs about alcohol use, interpersonal influences from partners, peers, and family members, and broader social and structural stressors such as poverty, trauma, mental health challenges, and intimate partner violence, with the intention of identifying areas of intervention. Discussions also examined how alcohol use intersects with sexual behaviors, prevention, and treatment, including engagement with PrEP and ART. Given the social stigma surrounding alcohol use in pregnancy and challenges eliciting open discussions on this topic, we relied on the long-standing relationship of our community implementing partner, the Foundation for Alcohol Related Research (FARR), to purposively identify and contact potentially eligible participants. Interviews were conducted at FARR's office, which offered a safe and private space for one-on-one interaction. We also used snowball sampling until we reached our target sample size.

Data were collected mainly in Afrikaans, with some English, by female interviewers who are fluent in both languages. To clarify the positionality of our team, all three interviewers (HH, DD, ZP) are South African, have experience collecting qualitative data in this or similar communities and are trained in qualitative data collection methods. While interviewer and participant gender were not matched, interviewers were selected based on their prior experience conducting qualitative interviews in this or similar settings. After completing the first few interviews, the audio recordings were checked by the senior interviewer (ZP) and feedback discussions and preparation for further interviews, specifically around establishing rapport and probing in a nonjudgmental manner to facilitate open discussion across participant groups, were held with the rest of the interviewers. All participants provided written informed consent prior to participation in study activities and were reimbursed with a grocery gift card (R250 or ~14 USD at the time of data collection) for their time and inconvenience. Participants who

requested additional support were referred to counseling. Institutional review board approval was obtained from the University of California, Los Angeles IRB#24–0130 and the Human Sciences Research Council Research Ethics Committee, South Africa #2/31/01/24.

Analysis

Analysis was conducted using an applied qualitative approach to identify themes relevant to informing the adaptation of a community-based mentor mother intervention [44]. All focus groups and interviews were audio-recorded, transcribed and translated into English, where relevant. All recordings were manually transcribed and translated by a combination of a third-party translation company and our trained study staff; no automated transcription or translation software was used. Focus groups were conducted prior to in-depth interviews. After an initial meeting to review and analyze the focus group data, the in-depth interview guides were refined based on emergent findings and areas requiring further clarification (e.g. the role of family/home life in alcohol use). An initial codebook was also developed at this stage.

Once data collection was completed, transcripts were uploaded into NVivo qualitative software (version 15). An initial codebook was developed by four members of the research team (APM, ZE, ZP, DD) based on the interview guides and a preliminary review of two transcripts. Next, two additional researchers (CD, BZ) applied this codebook independently to a subset ($n=4$, ~12%) of additional transcripts in parallel to refine the codebook, discussing discrepancies and adding or clarifying codes through an iterative process until consensus was reached. The remaining transcripts were then coded independently using a finalized codebook. Following data coding, a study team meeting was held to inductively identify emerging themes. Three researchers (APM, CD, BZ) then synthesized findings across themes through an iterative memo writing process. The memos were then reviewed collectively by the broader team (APM, CD, BZ, ZP, ZE, DJD) to ensure accuracy of interpretation of data and finalize content for the manuscript.

Reporting was guided by the Consolidated Criteria for Reporting Qualitative Research (COREQ) to ensure methodological rigor, with explicit attention to positionality, reflexivity, and related domains [45]. To enhance trustworthiness, interviews and analysis were conducted by Afrikaans-speaking South African team members familiar with the local context to reduce anticipated stigma associated with discussing alcohol use, promote participant comfort, and limit social desirability bias, alongside regular team debriefs during data collection and analysis. Dependability was strengthened through parallel coding and systematic documentation of analytic decisions. Transferability was supported through the use of thick description to situate findings within their social and structural context, and confirmability was enhanced through ongoing reflexive discussions about how researcher positionality may have shaped interpretation.

Results

Overview

The full sample consisted of 44 individuals. The majority (59%) of participants across qualitative data sources were female while 41% were male. The median age of male partners was 40 (IQR: 36.5–46, range: 30–57). The median age of drinking peers was 39.5 (IQR: 27–59, range: 20–67). All healthcare providers were female, consistent with the type of providers that persons living with HIV (PLW) are most likely to interact with at antenatal care in this setting. Most (85%) of community leaders were female, with representation from law enforcement, media, community health workers and peer leaders (individuals recognized by others in the community as trusted sources of advice despite not necessarily holding formal leadership positions).

Six interrelated themes emerged from the analysis: (1) couple-level dynamics influencing alcohol use during pregnancy; (2) social belonging and peer influences; (3) intergenerational family norms surrounding alcohol use;

(4) alcohol use as a coping mechanism; (5) the intersection of alcohol use with HIV prevention and treatment; and (6) participant perspectives on intervention design. Collectively, the first four themes demonstrate that those closest to pregnant women who use alcohol felt that their continued alcohol use during pregnancy is primarily driven by relational and social forces, including couple-level dynamics, social belonging, intergenerational family norms, and alcohol use as a coping mechanism, rather than by individual awareness of health risks. The fifth theme describes how perinatal alcohol use can impact both HIV prevention (including effective use of condoms and/or PrEP) and HIV treatment outcomes. The sixth and final theme reflects participant perspectives on intervention design, emphasizing the importance of peer mentors with lived experience and delivery models aligned with local contexts. Illustrative quotations are used to demonstrate the range of experiences and perspectives expressed by participants and to ground analytic interpretations in the data.

Couple-level dynamics as primary driver of continued alcohol use in pregnancy

Partner and peer participants consistently described male partner alcohol use as a central influence on women's drinking during pregnancy, though this influence operated in complex and nonlinear ways. Three distinct couple drinking trajectories during pregnancy emerged. In the first scenario, both partners continued to drink during the pregnancy. As one male partner explained, his own continued alcohol use undermined both his motivation and perceived authority to press his partner to stop:

... I asked her to start drinking less but I would not say it really worked. [...] I should've actually warned her about the danger for, for babies[...] but because I drank with her, for me it was let's go for it. I didn't realize the danger it did to my daughter. - Male partner, 41 years [Participant ID: PA5].

In the second and third scenarios, men reported reducing or sometimes stopping their own alcohol use after learning about the pregnancy to preserve their own health at this important life juncture or choosing to stop drinking alcohol in solidarity to motivate their pregnant partner to follow. As one male partner (34 years) described, "My whole life changed [...] when I heard she was pregnant I stopped drinking and brought God into my life." [PA2].

In some cases, this shift by the male partner was sufficient to motivate the pregnant partner to reduce alcohol use as well (scenario 2). As one female drinking peer explained:

If he says, 'I don't want a child who is affected by drink,' then I will listen. If he says, 'Let's do this together.' Because that is something that is between the couple. If we build together, it is between us. No one else can make that choice for you. -Female drinking peer, 42 years [PE3].

However, several male partners described situations in which their own reductions in drinking did not lead to similar changes among their pregnant partners. In these cases, women continued or increased alcohol use despite their partner's behavior change (scenario 3).

I started drinking less but like I said [...] I think she drank more when she was pregnant, when she found out she was pregnant. - Male partner, 41 years [PA5].

Together, these trajectories highlight how couple-level dynamics, rather than individual knowledge or motivation alone, shape alcohol use during pregnancy.

Social belonging overrides pregnancy-related health behavior change

Although partner drinking was viewed as the strongest influence on women's alcohol use during pregnancy, participants noted that couples' drinking occurred within a wider social environment where alcohol use was common and expected. The ubiquity of alcohol coupled with the fear that abstaining would lead to social isolation emerged as a key barrier to reducing alcohol use for pregnant women and partners alike.

You want to fit in with friends and now you are the only one in that friend group that is pregnant, but you are not prepared to lose that friendship circle. So, you continue to drink. [...]. You are not prepared to lose your place of acceptance. Because at the end of the day, most teenagers that misuse drugs and alcohol do it because they are looking for a place of acceptance. They are looking for their own type of people that is going to accept them with all their mistakes and scars. -Community Leader.

So now when you start kuiering (partying) and then you want to, as a couple, fall pregnant or not even plan to fall pregnant, it's almost like the female in the situation should stop drinking, but the male can continue. So, it's very difficult if you continue to be sociable with other people, because now I must stop and I'm sitting there [antisocially] cooking. Nobody thinks I'm fun.

-Female healthcare provider.

As a result, male partners and drinking peers frequently attributed pregnant women's continued alcohol use in pregnancy, at least in part, to their social circle. As one drinking peer (female, 23 years), who was actively drinking during her current pregnancy, reflected when asked whether her circle of friends contributed to her continued alcohol use, "I cannot blame them, but I also cannot not blame them."

Of note, many of partners and drinking peers described pregnancies in the community as being largely unplanned and given the central role of alcohol in social life, even in scenarios where the pregnant woman stopped drinking after learning of their pregnancy, this often occurred in mid- to late-pregnancy after harm to the fetus may already have occurred.

I was young. I used to party and [my pregnant partner] would party with me so it was fine, we partied, there was no inconvenience [...] after some time I realized [...] someone that is pregnant can lose the child and horrible things there are many risks, so when you drink and you are pregnant, so we talked a bit about it and [...] by 4 to 5 months, she started deciding that no she will drink less and later she didn't [drink at all].

-Male partner, 36 years [PA4].

Intergenerational and family-level normalization of alcohol use in pregnancy

The third and final perceived layer of social reinforcement upholding alcohol use during pregnancy was family-level messaging which not only normalized but often condoned and even encouraged alcohol use in pregnancy. This influence took several forms. Across participant categories, it was noted that drinking in pregnancy was often normalized by older adults who had themselves consumed alcohol during pregnancy and perceived no adverse effects in their children.

Sometimes in society, we also tell other women, "I drank a few wines and my child was fine". And then we think no nothing will happen to me. "I can do it too". -Female healthcare provider.

Participants described that ongoing heavy alcohol use among family members cultivated a lived environment that normalized intoxication across generations, which they perceived as influencing pregnant women's attitudes toward alcohol use during pregnancy.

That woman comes home on Friday nights constantly [throwing up], drunk, but her mother lies with the baby saying, "Don't worry baby," and the baby is crying. And in the back, the other daughter is also drunk. The mother is completely drunk. She drinks herself completely drunk, and then the child (the baby) drinks herself drunk (via breast milk). -Male partner, 52 years [PA9].

Finally, misinformation from parents and elders about the perceived benefits of drinking during pregnancy and breastfeeding was described as pervasive. Hearing these messages from trusted family members was described as often undermining the counter-messaging pregnant women receive from healthcare providers. As one health

worker explained, advice from older community and family members not only normalizes but sometimes actively promotes alcohol use during pregnancy:

I think there's also a perception if I drink alcohol that's bitter. Like if I drink beer, my milk will be more, because that's what granny tells you. -Female healthcare provider.

Alcohol use as a coping mechanism for emotional distress and relational instability

Heavy alcohol use was described both as a social elixir and a coping tool, reflecting its dual role in the lives of community members. Widespread stressors and underlying trauma were noted as broadly present in the community, including partner violence, child violence, unemployment, and persistent poverty.

I will say that in our community, here in it is a normal thing for women to drink when they are pregnant [...]. A lot of them are already drinking alcohol heavily in the mornings. The women are in a community that drinks daily, what we could describe as a factory-level of alcoholism..., I think personally, from experience in the community, development-wise, poverty plays a big role in our community. -Male drinking peer, 37 years [PE17].

Participants described that pregnant women faced escalated environmental stressors such as the shock of an unplanned pregnancy, absent partners, sudden loss of routine (e.g. leaving a job once pregnant), fears about HIV (either incident HIV infection or transmission of HIV to the infant) and a fear that any changes associated with the pregnancy may isolate them socially. Participants further described that these factors were perceived to drive alcohol use during pregnancy, and shared drinking was perceived as a means of connecting socially for women.

People talk about it, but no one does anything about it. The “gown gang”¹ drinks there, like really DRINKS, and they are HEAVILY pregnant. I’m talking about—the belt is already hanging loose from the gown and then come the words: “I feel fokkol (“fuck all”), no one must tell me fokkol (“fuck all”).” But then the father never shows up. That’s the problem that makes me angry about the drunk pregnant women. The father just never comes forward. You don’t know who the father is. When you hear who the father is, he also doesn’t care. -Male partner, 52 years [PA9]

Participants further noted that for some pregnant women, stopping on their own was no longer possible. Although the term addiction was rarely used, several participants acknowledged this aspect of the alcohol burden. Even though it was typically not named as addiction, it was suggested that many “cannot stop drinking” drinking despite awareness of potential harms.

I think it’s something very good that you’re busy with. To be honest, many of our people get lost. My sister, for example, her mother died and she didn’t have guidance, and she got lost in the world. At the end of the day, she fell into addiction because she didn’t know there was something better out there. -Female drinking partner, 59 years [PE6].

Alcohol use impacts on sexual behaviors that can lead to incident HIV and a barrier to HIV prevention and treatment adherence

Partners and drinking peers alike described alcohol use as a precursor to sexual decision making including condomless sex and sex with unknown partners, both generally and explicitly during pregnancy, leading individuals to engage in sexual situations they would not otherwise have.

¹ The gown gang was described as a group of visibly pregnant women in their dressing gowns who openly drank heavily together in public spaces.

Because alcohol is something that I feel can quickly mess up your head because one moment you are okay and the other moment you are under the influence and it causes unnecessary irresponsibility. -Female drinking partner, 22 years [PE1].

Condom use was described as infrequent, particularly in the context of alcohol use. Several male partners reported relying on HIV testing as their primary prevention strategy, stating that “I don’t need condoms because I test regularly.” did not discuss the limitations of HIV testing as a standalone prevention strategy, including the potential for undetected infection during the window period following new infections. Beyond healthcare workers, participants were unaware of PrEP with most having never heard of it.

Among participants discussing experiences with HIV treatment, alcohol use was consistently described as a major impediment to antiretroviral therapy adherence. Alcohol use was reported to disrupt routines, reduce motivation for self-care, and lead to missed doses. As one male partner (43 years) described, “[When you drink] *You don’t use your pills anymore. With alcohol you fall behind, you don’t worry about your body, it’s just that. You don’t care and you don’t worry.*” – Male partner, 43 years [PA12].

Considerations for intervention: trusted people, safe places and shared networks

When describing how pregnant women in their community may best be supported to reduce their alcohol use, participants emphasized that credible and acceptable support for reducing alcohol during pregnancy must be *delivered* by trusted individuals with lived experience, *situated* in non-stigmatizing community spaces, and *embedded* in supportive networks.

Trust in the person delivering support was closely tied to shared experience and the manner in which that experience was communicated. Participants consistently indicated that they believe pregnant women would prefer facilitators from their own communities who had personal experience with alcohol use during pregnancy and who approached others with humility rather than authority. As one female peer (age 33) who identified as a drinking peer explained, “...its people that have gone through it someone who is humble you don’t need to look like a know it all, you need to come down to their level and be like “I know the feeling, I know” we want someone there for different reasons someone who comes down and says, I know.”

Participants also felt that where support was to be offered would be just as important to pregnant women as who delivered it. Public health clinics were described by many as stressful, stigmatizing and inconvenient, and as such undesirable spaces for intervention delivery. In contrast, community centers, churches, or other civic spaces were described as safer, more desirable and easier to access. As one female who described drinking with pregnant family members and friends (33 years) explained, “[the intervention cannot be offered] by a clinic because a clinic is depressing. If they can have a center, we are going there and it can be a group thing and someone that now needs more help must have the boldness to say but I need a one-to-one session.” [PE14] These preferences highlight the role of place in reducing stigma, facilitating openness, and enabling flexible modes of support.

Participants further emphasized that they believed interventions should address the social context in which alcohol use occurs. Given the multilevel factors influencing alcohol use, participants also emphasized the need for strategies that address social barriers to reducing drinking. Most felt that a group format, at least for some of the sessions, would be most effective, noting that women often need a replacement social network if they are to step away from drinking environments. Group settings were seen as enabling mutual encouragement, accountability, and shared problem-solving, as illustrated by one male drinking peer (67 years) who remarked, “I think they should be in groups. I think they will better support each other like that, because one will say ‘you can’t do this’, and another will say ‘you can’t do that.’ [PE12].

Finally, partners and peers highlighted the perceived importance of engaging social networks beyond the pregnant woman herself, particularly male partners. Several suggested activities in which both mothers and fathers could participate, noting that partners’ understanding and behavior could significantly influence women’s ability

to reduce alcohol use. As one male who described drinking with pregnant family members and friends (37 years) explained, “*Fathers could go to the clinic too and learn how bad it is for mothers to drink...*”.[PE16].

Together, these findings point to the need for interventions that are peer-informed, community-based, group-oriented, and socially inclusive, addressing alcohol use during pregnancy as a relational and socially embedded practice rather than an individual behavior alone.

Discussion

Our study examined the social, relational, and structural factors shaping alcohol use during pregnancy, drawing on perspectives of partners, family members, and peers of women who used alcohol while pregnant. Across interviews and focus group discussions, participants described alcohol use during pregnancy as deeply socially embedded, shaped by intimate partnerships, peer networks, intergenerational beliefs, and broader community norms rather than individual knowledge or motivation alone. Despite clear evidence that there is no safe level or safe timing for alcohol use during pregnancy [46], this practice remains upheld by sociocultural norms to varying degrees around the world [47]. In Saldanha Bay, a high HIV burden setting, perinatal alcohol use was further situated as a barrier to effective HIV prevention and treatment, underscoring the necessity of addressing it as part of comprehensive HIV programming.

Our study demonstrates how public health messaging on the harms of alcohol use has been insufficient to address the complex and interconnected social, structural, and relational drivers that sustain this behavior. By engaging partners, family members, and friends of women who used alcohol during pregnancy, our study underscores why evidence-based intervention approaches that are not responsive to the contextual factors upholding alcohol use in pregnancy are unlikely to generate meaningful impact. In addition to identifying factors that contribute to alcohol use during pregnancy, our study leveraged participant perspectives to inform a tailored intervention responsive to these multilevel influences. Collectively, our findings underscore that alcohol use during pregnancy is socially embedded and reinforced across multiple levels, and that effective responses must be similarly multilevel and contextually grounded.

Given the complex social and historical factors shaping alcohol use during pregnancy in South Africa, effective interventions must extend beyond individual behavior change to address multilevel drivers of use. Further, understanding who influences pregnant women and what shapes their decisions to use alcohol is essential. Interventions that fail to account for these broader social dynamics are unlikely to achieve meaningful or sustained impact. A growing body of literature suggests that peer-based interventions can effectively support pregnant women and new mothers in adopting health promoting behaviors across a range of domains, including newborn screening, vaccination uptake, HIV prevention and care engagement, and treatment adherence [38–41]. These interventions often rely on positive deviant peer mentors, commonly referred to as mentor mothers, who provide social support and health information in a non-stigmatizing and relatable manner. Although the Philani Plus intervention, a South African mentor mother program originally designed to improve maternal and child health by addressing nutrition, HIV, tuberculosis, and maternal mental health, incorporated a brief alcohol focused component, its limited emphasis on alcohol did not yield reductions in alcohol use until several years after exposure, well beyond the perinatal period [28]. Our findings help explain why prior mentor mother models may have had limited impact on alcohol use: participants described alcohol use during pregnancy as reinforced through partners, peers, and broader social networks, suggesting that sustained, alcohol focused content and engagement beyond the individual woman are likely required. They also provide critical insight into the importance of selecting peer mentors that can harness the respect and trust of not only the pregnant woman but their broader social network, a novel finding that emerged solely due to our focus on interpersonal and community level influences. Selecting slightly older mentors, for example, may improve outcomes by ensuring the peer mentor has the necessary authority and credibility to influence the pregnant woman’s wider social circle.

Two recent calls to action on addressing alcohol use during pregnancy in South Africa emphasize education and awareness, prevention of unplanned pregnancies, early pregnancy detection, antenatal counseling, and policy level strategies to reduce alcohol availability [34, 35]. While we endorse these priorities, our findings underscore that action in any single domain or even across the priorities highlighted will be insufficient if it fails to engage the social actors within communities who are positioned to influence behavior change. Specifically, participants described that women's alcohol use during pregnancy was shaped within couple and peer relationships, normalized within social networks where drinking was expected, and reinforced by intergenerational beliefs that sometimes contradicted clinical advice. Participants further noted that pregnancies were often unplanned and that pregnancy recognition frequently occurred after alcohol use was already established as part of daily social life. Even in situations where participants reported that women stopped drinking once pregnancy was confirmed, a critical period of fetal exposure may have already occurred. This aligns with a recent systematic review of predictors of alcohol use in pregnancy found pre-pregnancy patterns of use the single most salient predictor of continued use in pregnancy [48] and highlights the importance of addressing alcohol use beyond pregnancy as a discrete life event. Given the strong intergenerational and partner level influences on reproductive and health behaviors observed in this and prior work [49, 50], prevention efforts that engage parents, partners and peers may help reduce stigma and support earlier behavior change. In addition, our findings suggest a need to integrate alcohol reduction with HIV prevention and treatment support, given that participants linked alcohol use with condomless sex, limited awareness of PrEP, and disrupted antiretroviral therapy (ART) adherence.

Participants offered several explicit suggestions for intervention leverage points. When asked who should deliver the intervention, positive deviant peer mentors with lived experience were overwhelmingly recommended as the most suitable implementers, both to reduce stigma and to demonstrate that behavior change is possible. This evidence-based delivery model, which was originally designed to improve care and treatment engagement among pregnant women and mothers living with HIV has already successfully been expanded to several additional health issues [38–41] and is well suited to addressing alcohol use during pregnancy, another highly stigmatized behavior, alongside HIV. Participants also emphasized the value of group-based sessions in fostering alcohol-free social support, and suggested that inclusion of broader social networks, including partners and friends, could help challenge entrenched norms surrounding alcohol use during pregnancy. However, engaging social network members in interventions requires careful attention to safety, confidentiality, participant autonomy, and the potential for stigma or interpersonal conflict, particularly in a population where IPV is already occurring. Finally, consistent with prior work [12], sustained support addressing co-occurring challenges such as HIV, mental health concerns, and partner violence was viewed as essential for reducing coping-motivated alcohol use and improving longer term outcomes for mothers.

Our study provides first-hand accounts of how alcohol use during pregnancy is shaped within women's social environments in the Western Cape drawing on multilevel community perspectives that can be leveraged to strengthen social support. The community partners' longstanding presence in the study communities enabled engagement with participants willing to discuss a highly stigmatized topic, addressing an important gap in the literature. The qualitative design allowed in-depth exploration of social, relational, and structural drivers that are difficult to capture quantitatively. Study limitations include the non-generalizability of qualitative findings and purposive sampling methods, the inability to link narratives to objective measures of alcohol use or pregnancy outcomes and the fact this was secondary reporting as individuals described the behaviors of their partner/peer family member who drank while pregnant. Nevertheless, these findings, together with our prior mixed methods work with women who use alcohol during pregnancy, offer valuable insight for intervention development. Next steps involve returning findings to communities through participatory workshops to co-adapt the evidence-based mentor mother approach for use in this setting and with content tailored to address alcohol use and related health issues (completed), followed by evaluation through a randomized controlled trial (NCT06962592).

Conclusion

Alcohol use during pregnancy in South Africa's Western Cape is sustained by deeply embedded social, relational, and structural forces rather than individual knowledge deficits alone. Our findings show that male partner drinking, fear of social isolation, intergenerational misinformation, and alcohol use as a coping strategy often override medical advice and normalize continued use during pregnancy. Participants emphasized the value of peer delivered support from mentors with lived experience, particularly when interventions engage broader social networks and address co-occurring challenges such as HIV, mental health concerns, violence and access to family planning to avoid unplanned pregnancies. Together, these insights inform the adaptation of a mentor mother-based intervention to reduce alcohol use during pregnancy in this high burden setting.

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Authors' contributions APM wrote the original draft of the manuscript. CR and BZ conducted data analysis. HH, DD, and ZP conducted data collection. ZE and DJD secured funding for the study. All authors reviewed the manuscript and provided substantive input on revisions. All authors approved the final version of the manuscript.

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Data availability The dataset supporting the conclusions of this article is available upon request to the authors.

Declarations

Ethics approval and consent to participate All study procedures involving human participants, human data, or human materials were conducted in accordance with applicable institutional and national ethical standards and with the 1964 Declaration of Helsinki and its later amendments. All participants provided written informed consent prior to participation in study activities and were reimbursed with a grocery gift card (R250 or ~ 14 USD at the time of data collection) for their time and inconvenience. Participants who requested referral were referred to counseling. Institutional review board approval was obtained from the University of California, Los Angeles IRB#24–0130 and the Human Sciences Research Council Research Ethics Committee, South Africa #2/31/01/24.

Consent for publication NA.

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