

ORIGINAL RESEARCH ARTICLE

Barriers and facilitators of alcohol abstinence during pregnancy

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Abstract

Fetal Alcohol Spectrum Disorders (FASD) is a common and under-recognised health burden in South Africa. There is a limited understanding of why pregnant women drink in the South African context, particularly in rural settings, where the prevalence of FASD is highest. A purposive sample included eight women from a rural ante-natal clinic in the Northern Cape province of South Africa. Participants participated in a semi-structured interview. A process of thematic analysis was used to generate themes from the interviews. All participants were aware of the link between alcohol use during pregnancy and adverse fetal outcomes. Furthermore, most participants reduced drinking after pregnancy recognition. Participants described barriers and facilitators of alcohol abstinence. Barriers included social pressure, life stressors, and cravings and habits. Facilitators included the desire to avoid FASD, supportive relationships, availability of alternative activities. Addressing barriers at community and individual levels may aid women in reducing harmful drinking during pregnancy. (*Afr J Reprod Health* 2022; 26[8]: 53-65).

Keywords: Fetal alcohol spectrum disorders; South Africa, rural, qualitative, pregnant

Résumé

Les troubles du spectre de l'alcoolisation fœtale (TSAF) sont un problème de santé courant et sous-reconnu en Afrique du Sud. Il y a une compréhension limitée des raisons pour lesquelles les femmes enceintes boivent dans le contexte sud-africain, en particulier dans les milieux ruraux, où la prévalence de l'ETCAF est la plus élevée. Un échantillon raisonné comprenait huit femmes d'une clinique prénatale rurale dans la province du Cap Nord en Afrique du Sud. Les participants ont participé à une entrevue semi-dirigée. Un processus d'analyse thématique a été utilisé pour générer des thèmes à partir des entretiens. Tous les participants étaient conscients du lien entre la consommation d'alcool pendant la grossesse et les résultats fœtaux indésirables. De plus, la plupart des participants ont réduit leur consommation d'alcool après la reconnaissance de la grossesse. Les participants ont décrit les obstacles et les facilitateurs de l'abstinence d'alcool. Les obstacles comprenaient la pression sociale, les facteurs de stress de la vie, les envies et les habitudes. Les facilitateurs comprenaient le désir d'éviter l'ETCAF, les relations de soutien, la disponibilité d'activités alternatives. L'élimination des obstacles aux niveaux communautaire et individuel peut aider les femmes à réduire la consommation nocive d'alcool pendant la grossesse. (*Afr J Reprod Health* 2022; 26[8]: 53-65).

Mots-clés: Troubles du spectre de l'alcoolisation fœtale ; Afrique du Sud, rurale, qualitative, enceinte

Introduction

Fetal alcohol spectrum disorders (FASD) describes a broad range of adverse neurodevelopmental, behavioural, growth and morphological effects of maternal alcohol consumption during pregnancy¹. The spectrum denotes varying levels of affectation, which roughly correlate with the degree of alcohol consumption during pregnancy².

South Africa has the highest rates of FASD globally, with prevalence rates of up to 26% in some communities^{3,4}. This is in comparison to estimates from other countries, which are usually

1-2%^{5,6}. The elevated prevalence in South Africa has been attributed to the intersection of risky drinking - usually in a regular, weekend binge pattern - with a range of other risk factors⁷⁻⁹. Several epidemiological and interventional studies show that these risk factors are most often linked to low socio-economic status, with poor rural residents of the Western and Northern Cape provinces being at particularly high risk^{4,8,10,11}. In some communities, FASD may be more prevalent than more recognised public health problems, such as HIV and TB¹. Qualitative research has the potential to provide rich information regarding the

personal experiences, agency and motivations of pregnant women who drink during pregnancy. It also contextualises their choices in a situation where they are often vulnerable, with multiple, cumulative stresses¹²⁻¹⁶.

Internationally, qualitative research regarding FASD has often focused on issues other than the behaviour of drinking during pregnancy. The articles examining pregnant women who drink have populations that differ substantially from the South African context^{17,18}. Their populations are, on average, wealthier and more educated, and drinkers have lower average levels of alcohol intake than in South Africa. This limits transferability between contexts.

We found seven qualitative studies of drinking behaviour in women in South Africa. Four of these studies were in urban contexts^{13-15,19}, while three were in rural environments^{12,16,20}. Only two studies sampled pregnant women specifically, both by a single research group in a metropolitan area (Watt 2014, Watt 2016)^{14,15}.

The studies of rural women acknowledged that drinking should be viewed as a social norm created by multiple and overlapping historical, social, cultural and personal factors and should not be viewed solely through a lens of personal choice^{12,16,20}. Falletisch²⁰ discussed the historical roles of slavery, peonage and the 'tot system' in creating a sense of learned helplessness that persists to the present day for many farmworkers. Cloete¹⁶ and Cloete and Ramagundo¹² investigated alcohol use as an 'occupation', defined as "the everyday activities that people do as individuals, in families and with communities to occupy time and bring meaning and purpose to life"²¹. These characterised drinking as an imposed occupation – an activity undertaken not necessarily because of choice but due to historical, economic and political influences.

These influences have produced an enduring South African legacy of patriarchy, violence and systemic victimisation and disempowerment of women²²⁻²⁴. Specifically, we must acknowledge that South Africa has one of the highest rates of gender-based violence in the world²⁵. Cloete argues that drinking behaviour among rural women should be seen as a product of this discriminatory system^{12,16}. In this model, these external forces have left these women with little

alternative coping mechanism besides alcohol use^{12,16,25}.

The studies in urban areas identified multiple factors that influenced drinking in women, with many findings replicated across the studies. Choi *et al.*¹³ interviewed women in general, unrelated to pregnancy status. They found that women related their drinking behaviour to life stressors, including *inter alia*, gender-based violence, poverty, and relationship conflict. In addition, women used alcohol to manage emotions and to facilitate social engagement and support.

Fletcher *et al.*¹⁹ interviewed women who were predominantly non-pregnant regarding drinking behaviour during a previous pregnancy. They found that while many women recognised drinking in pregnancy to be harmful, this was not consistently coupled with abstinence during pregnancy. Factors that influenced this included unplanned pregnancies, social normalisation of alcohol use during pregnancy, and depression.

The two studies by Watt *et al.* studied pregnant and post-partum women. Participants were largely unfamiliar with FASD, often had inaccurate knowledge regarding the effects of fetal alcohol exposure, and frequently did not decrease drinking on pregnancy recognition. Watt *et al.* enumerated four factors contributing to drinking in pregnancy: addiction, lack of knowledge about FASD, lack of bonding with the pregnancy, and drinking to maintain social connections¹⁴. Watt *et al.*¹⁵ explored attitudes regarding maternal alcohol use. This study described that while women received anti-drinking messages from various sources, these were not highly valued and often contradicted social norms. In addition, women felt stigmatised and ambivalent about their drinking behaviour.

In summary, while some South African qualitative research exists regarding reasons for drinking by rural women and pregnant urban women, there is currently none on in-pregnancy drinking by rural women. This is important because these women are at the highest risk of having a child with FASD.

Therefore, our aim was to describe the phenomenon of alcohol use during pregnancy, from the perspective of pregnancy mothers attending an antenatal clinic in Carnarvon, a rural town in the

Northern Cape province. Our research objectives included: Describing what pregnant women who drink in this community understand about the effects of alcohol on their pregnancy; investigating the context that encourages alcohol use during pregnancy; exploring the barriers and facilitators to alcohol cessation during pregnancy.

Methods

We utilised a descriptive phenomenological approach within an interpretivist paradigm²⁶. This approach was deemed most appropriate as it is primarily concerned with describing how people understand a phenomenon²⁷. The study took place in Carnarvon, a rural town in the Northern Cape province of South Africa, located 400 kilometres away from the nearest central town²⁸. The town is situated within the arid Karoo region and has about 6,600 inhabitants²⁹. The most recent Census data describes the population of Carnarvon as being 51% female, 96% Afrikaans-speaking, and 85% reporting their population group as 'Coloured' (this census category refers to South Africans of mixed ancestral background)²⁹. The primary employers in the area include agriculture and government-driven work initiatives³⁰.

Municipal reports indicate marked inequality, high levels of poverty and unemployment, and low levels of education^{28,30}. Most households earn below the South African average and are often dependent on social grants^{28,30}. There are relatively few economic opportunities for locals, and the municipality cites alcohol and drug misuse as a threat to its development^{28,30}.

Purposive sampling was performed at the Carnarvon Primary Health Centre. Women were eligible if they were: currently pregnant; 18 years or older; attending antenatal services at this site; had taken an alcoholic beverage within the last six months. The principal investigator or a research assistant approached women while they waited for their appointments and invited them to participate in a study regarding their experience of their pregnancy. Women who expressed interest were taken to a private room where the principal investigator informed the participant about the study's focus on women who use alcohol during pregnancy. Women were then asked if they were

still willing to participate, and whether they met the alcohol drinking criteria. This two-stage approach was intended to avoid women having to talk about their potentially sensitive drinking behaviour in a public space.

Consenting women were given an appointment for an interview conducted in a private room in the local public library. All participants were interviewed in person by the principal investigator. Participants received a small gift of baby clothing as compensation for their time. Semi-structured interviews were conducted with an interview guide developed in consultation between the investigators. The guide was developed with the dual intention of being conducive to participants sharing their experiences and encouraging responses that would answer the research aims. Topics included: the participant's feelings towards her pregnancy; beliefs regarding the effect of alcohol in pregnancy; and factors that affect alcohol use in pregnancy. Several probes were also provided in the interview guide if needed.

Interviews ranged in length from 30 to 75 minutes and took place during two 2-week periods in July and November 2018. A total of 8 audio-recorded interviews were completed, all in the Afrikaans language. The number of participants was limited by logistical constraints in how long the principal investigator could remain at the site. The audio data was transcribed verbatim, in the original language of Afrikaans, by the principal investigator, with care taken to protect the anonymity of participants. Thematic analysis was performed using the qualitative data management software ATLAS.ti (version 8), according to the process described by Braun and Clarke³¹. Themes were ordered in consultation between the research team with the final decision made by the principal investigator. Quotations presented in this paper have been translated into English by the principal investigator and checked by the other researchers. This has been done to facilitate the understanding of a wider audience. While no translation can capture the full richness of the data and contextual clues, we have made a concerted effort to produce a high-fidelity translation.

Participants may have viewed the principal investigator as a healthcare worker, as they were recruited in a healthcare setting. This could have influenced participants to change their responses to

be in line with medical recommendations. Therefore, the principal investigator took care to reflexively address issues such as role conflict³²⁻³⁴, gender sensitivity^{35,36}, and power relations^{37,38} in a reflexivity journal kept during the data collection and analysis phases of the project. This helped make his underlying biases explicit and made him constantly re-assess how the data affected him³⁵.

Several additional measures were undertaken to improve the trustworthiness of the data^{27,39-41}. We ensured prolonged engagement with both the community and the data and checked for referential adequacy as suggested by Braun and Clarke³¹. A thick description was provided of the environmental, social and economic factors that influence the community. The research process was detailed, with adherence to conventions on standard reporting. An audit trail was created in the reflexivity journal, which details the rationale behind methodological decisions^{39,41}. Discussions between investigators on the interpretation and structuring of themes were recorded.

Results

Description of the sample

The demographic and drinking details of participants are presented in Table 1. All 8 participants were Afrikaans-speakers who were born and raised in Carnarvon. All 8 participants self-identified as 'Coloured'. Two were married, and the rest were in relationships. The median age was 23 years (range: 19-36). All but one of the pregnancies were unplanned.

All participants had consumed alcohol during their pregnancies, with three drinking only before pregnancy recognition and five continuing to drink thereafter. Two women who drank after pregnancy recognition were no longer drinking at the time of the interview. Pregnancies were typically recognised at two to three months gestation. Several participants changed the type the type of alcohol they used, moving from higher alcohol content drinks (spirits) to lower content drinks (beer), with an explanation that this was better for the health of their pregnancy. Most women self-reported a pattern of regular binge drinking over weekends in their semi-structured interviews. Many participants described their previous level of alcohol use as not problematic,

even when the levels met or exceeded the definition for binge drinking⁴².

Themes

We classified our results into two major themes: barriers to alcohol abstinence and facilitators of alcohol abstinence. A summary of the themes and subthemes is tabulated below in Table 2.

Theme 1: Barriers to alcohol abstinence

Participants described several reasons for their continued alcohol use during pregnancy or the challenges they faced in abstaining from alcohol.

Social pressure

The most common barrier to alcohol abstinence identified by the participants was drinking alcohol to feel accepted by their peers. All participants described drinking as a social activity that often occurred as a weekend leisure activity. Many participants felt peer pressure to continue drinking alcohol during pregnancy, fearing rejection by their friends. Indeed, some participants became estranged from their friends when they decided to abstain from alcohol. The following quotation from Participant 5 illustrates peer pressure to drink:

So I am alright, but if my friends come to me, and they say, "Don't be so stiff, come let's drink a bit of Castle LITE", you know, a person sometimes doesn't want to disappoint the friends, then I'll drink the Castle LITE*

*refers to a beer that is Low In Total Energy; its alcohol content is about 4% by volume⁴⁴.

After this incident, Participant 5 told her friends that she intended to remain teetotal for the remainder of her pregnancy. After that, her friends excluded her from social activities:

You see, now I don't want to drink with (them), so they think, so they aren't going to come sit with me... and... I was now for this whole time just alone at home (...) If I can't make my friends happy, then they also don't have any interest in me.

Even without overt influence, some women found it difficult to abstain when around people who drink. Participant 6 described her experience:

It's, how can I say, it's very uncomfortable to say it, because it is, (sighing), some days... that.. you feel, you don't actually have a desire to drink... (...) Now

Table 1: Participant demographic details

Participant number	Age	Relationship status	Planning of pregnancy	Gestation at interview	Alcohol use before pregnancy recognition	Alcohol use after pregnancy recognition	Employment status and financial support
1	21	Unmarried, co-habiting	Unplanned	Five months	Regular drinking on weekends ¹	Moderate use, followed by cessation	Student (tertiary), supported by her partner
2	30	Married	Planned	Five months	Regular drinking on weekends	Cessation	Formally employed
3	19	Unmarried, co-habiting	Unplanned	Four months	Regular drinking on weekends	Decreased frequency, quantity maintained	Unemployed, no explicit indication
4	33	Unmarried, in a relationship	Unplanned	Five months	Regular drinking on weekends	Cessation	Part-time work
5	25	Married, but not co-habiting	Unplanned	Six months	Regular drinking on weekends	Moderate use, followed by cessation	Unemployed, social grants, and financial support from partner
6	36	Unmarried, co-habiting	Unplanned	Seven months	Daily heavy use	Bingeing most days of the week	Irregular, informal employment
7	20	Unmarried, in a relationship	Unplanned	Six months	Occasional bingeing	Cessation	Unemployed, supported by partner
8	21	Unmarried, in a relationship	Unplanned	Seven months	Regular drinking	Decreased frequency and quantity	Unemployed

¹. Binge drinking is classified as four or more standard drinks in an episode⁴³.

Table 2: Themes and subthemes

THEMES	SUBTHEMES
Barriers to alcohol abstinence	Social pressure
	Life stressors
	Cravings and habits
Facilitators of alcohol abstinence	Desire to avoid FASD
	Supportive interpersonal relationships
	Availability of other occupations
	Body cues
	Sense of agency

he comes, "come, let's [drink]", I say, "No, I don't have anything". Or maybe he comes with a beer or something. You say "But I'm not going to worry today". Now he comes to sit and drink a beer with me. I think, come on, a little glass is not going to do anything, "Give that one little glass". Now (I've) finished drinking that beer, now I'm going to say, "go buy another beer for us quickly". And so, it will start, then the drinking habit goes on.

Life stressors

Participants described using alcohol to deal with their everyday social and relational stressors. These included, *inter alia*, poverty; gender-based violence; and financial dependence on partners and social grants. In addition, participants felt anxious about meeting societal expectations placed on women. Participant 6 talked about this at length:

To be a woman is actually not an easy thing because a woman has to go through many things that men do not have to go through. There's things that women... must stress about a house, they have to stress about children, they have to stress about food (...) that's all pressure that is put on a woman. And then there are some days that you feel, you don't feel up to this stress, you aren't going to do anything else for yourself, you are just going to buy a bottle of wine, or a bottle of beer, and you drink, because things become too much for you.

Relationship problems were noted as significant stressors by several participants. Several

participants identified relationship problems as the primary reason for their drinking. Participant 3 described how she would drink to avoid conflict with her partner, who was a regular drinker:

If he is drunk, and I am sober, then it doesn't feel right, because it's just an argument. But if we both drank, then it's... nothing like that, we are just happy.

Participant 6's relationship problems included a partner who used alcohol and drugs and was physically abusive towards her, especially when under the influence.

Uh-uh (no), sometimes, like, my boyfriend, he actually uses drugs. That's all the things that make me feel like that. And if he uses alcohol on top of the drugs as well, then it is more stressful things for me, because then we don't understand each other, we argue, we fight amongst ourselves, and it affects the children actually.

She later clarified that the fighting included violence:

This is what (partner) causes, or it is what I maybe cause as woman, maybe... He finds fault with me, or maybe me with him, then it causes the arguing, and then... it goes over into violence, and that is how things are.

Social isolation was also identified as a significant life stressor and one that may be related to pregnancy. After pregnancy recognition, Participant 3's partner no longer wanted to drink with her. This led to her feeling socially excluded:

If he goes out (to drink), I have to be at home, so it's... It's not actually good for me. (...) Because I also feel, like, I also want to go out and drink, and so on, and enjoy myself

She later admitted that she had started drinking at home because of her social isolation:

The reason for that [drinking alcohol at home] was that my boyfriend was out all the time, and it felt to me like no one wanted anything to do with me.

Cravings and habits

Participants also experienced internal barriers to alcohol abstinence, such as cravings and drinking out of habit. While some participants experienced cravings for alcohol, they described themselves as largely successful in not acting upon them. Participant 2 commented:

There are days that you crave it, "I really want to drink a beer right now", but ok, you have to, let the craving come, and then go again.

Some participants felt that drinking alcohol had become part of their daily routine, and their continued drinking was 'out of habit'. The following quote from Participant 6 illustrates this:

It's a habit for me now (...) It's not like there are actually lots of reasons

Theme 2: Facilitators of alcohol abstinence

Participants reported several factors that motivated them to either reduce alcohol intake or abstain from alcohol, including a desire to avoid FASD, supportive interpersonal relationships, availability of other occupations, body cues and a sense of agency.

Desire to avoid FASD

All participants were aware of the potential adverse effects of alcohol use during pregnancy. Furthermore, all participants modulated their drinking to reduce the risk of having a child with FASD.

Participant 2 described her motivation to abstain from drinking after pregnancy recognition:

They talked a lot about these alcohol syndrome babies and such, and it's not something that I want my child to have. Because it's not just a problem with my child, it's a problem for me at the end of the day.

Participant 6 reduced her drinking frequency from daily use to four times a week; however, she continued binge drinking with each use. When asked about the reason for her change, she said:

It's because of my pregnancy that I am drinking a bit less, for my baby's, uh, sake.

Most participants understood that FASD had implications in terms of a child's neurodevelopment, with features like delayed milestones or intellectual impairment. Participant 2 understood FASD as:

The child won't progress at school, he will be slower than other children, and he will never (...) have a normal life like a normal child

The knowledge of FASD came from multiple sources. Some women reported hearing about it at

the clinic from healthcare workers, others were told of negative consequences by community members.

Supportive interpersonal relationships

Many participants cited their partners and friends as supportive factors in cutting down their drinking. Some participants found ways to remain within their social group while abstaining from alcohol, such as drinking non-alcoholic beverages at social events. This support allowed participants to maintain their existing support structures. Participant 2 talked in depth about this:

And they will also make time for me, be by me for a weekend, and... they will sit by me, and they will enjoy their thing (...) and then they will buy what I want for me.

She also related how her friends would encourage her to stay abstinent even as they were drinking alcohol:

They will just tell me, "Uh-uh, no", if I want to, now, then they will say to me, "Uh-uh".

Participant 2's partner also stopped drinking in solidarity with her, which helped her to maintain the behaviour change:

He is also not drinking at the moment. He's left it for now.

Furthermore, some participants related that their partners requested that they abstain from drinking during pregnancy to safeguard the child against any adverse effects of alcohol. As Participant 5 explained:

And the father feels very strongly about his child, that isn't going to come into this life with alcohol, so... Then I abstained from alcohol for now.

An interesting finding was how the reaction from a participant's children towards drinking alcohol during the pregnancy encouraged her to stop. Participant 5 related the following story:

It upsets my boy, he's eight. He doesn't like the idea that I drink, because he says then I am more violent, I argue with anyone and anything. And then he also won't stay by me. If he knows that I am drinking, then he stays by his (paternal) grandmother. Then he tells his grandmother, "My mom does this, my mom is too dangerous (...) I don't want to stay with her". So, I think it's better if I just... abstain from... that which might be a pleasure for me, but for my kids, it's not a pleasure to see their mother like that.

Availability of other occupations

Those participants who found alternative occupations to replace drinking were all able to abstain during their pregnancy. These alternative occupations involved spending more time with their partners or family. This is illustrated by the following participant responses when asked whether they missed drinking with their friends:

Uh-uh (no), me and my daughter, she's 14 now, the oldest one, me and her have a very open relationship, so most of the time, I will sit and talk with her about this and that. (Participant 5)

No. They (friends) drink too heavily now. That's why sometimes, then I go sit with my boyfriend, then we sit and have cold drink and chips. (Participant 7)

In contrast to the above, those participants who made less significant changes to their habits found it difficult to abstain from drinking alcohol during their pregnancy.

Body cues

During the pregnancy, participants experienced increased susceptibility to nausea, especially when using alcohol. This body cue was recognised by several participants and led to decreased drinking or cessation of drinking. Interestingly, some participants described this phenomenon as part of how they recognised their pregnancies.

The following quote by Participant 1 illustrates this: *I began to feel bad (when I drank), and, then I went to the clinic. And first it was... (they) took my pregnancy test, and... then the test was positive (...)*

She later elaborated:

I went out (to drink) a lot, and it was a consistent habit... and... then I found out that I was pregnant, then I began to drink a lot less, because my body could not take it (...) I couldn't get it in, it would come out (indicating that she would vomit)

Participant 2 had a similar experience:

What made me realise that something isn't right... I drank, and when I drank I felt, no, no, I am nauseated, I can't anymore. And that is how I found out that something wasn't right, went to clinic, and they said I am pregnant.

Sense of agency

Most of our participants viewed their drinking behaviour as a personal choice. Furthermore, they

would describe that reducing alcohol intake was easy for them and resulted from a decision to stop or cut down. Some women in the sample also reported that changing their behaviour simply required the willpower to make that choice. This quote from Participant 2 illustrates this point of view:

It is very easy to avoid. If you just tell yourself, "I am not going to, and I don't want to". Because I can't just think of myself, I have another person that I need to think about.

These descriptions often referred to a desire to protect the baby, or to achieve the ideal of being a 'good mother', as related by the following participant responses:

It's just a decision that... that you have to take, because, at the end of the day, it is your child that you have to do it for. It was not a difficult decision for me. (Participant 1)

I just think about my child (...) I can be a good mother for my child one day. (Participant 8).

Discussion

All women in the sample were risky drinkers with significant alcohol exposure during pregnancy. One participant was a daily heavy drinker; six were regular weekend binge drinkers; one was an occasional binge drinker. Only one pregnancy was planned, though this did not preclude alcohol exposure. Most participants stopped drinking after pregnancy recognition, whether immediately or gradually. Those who continued to drink reduced their intake. This behaviour corresponds to evidence from quantitative research indicating that South African women often stop or decrease drinking after pregnancy recognition^{45,46}. No participants reported increased drinking, or maintained drinking levels, as was frequently observed in the series of studies of pregnant women in Cape Town^{14,15,19}.

Most participants had a relatively high awareness of FASD. Participants described this as a strong motivating factor to modulate their drinking behaviour. The level of awareness appears higher than found by earlier qualitative studies^{14,15,19}. While awareness of the risks of drinking does not guarantee behaviour change¹⁹, several studies show that improving knowledge has a beneficial effect on drinking among pregnant

women^{10,47,48}. This discrepancy could be due to the time difference between our study and those before it, or due to differences in the health-promotion information given to the community.

Women described a number of sources of information regarding the effects of alcohol use in pregnancy including non-medical ones, this has been described¹⁵. However, the specific strategies that participants shared are interesting in how they show the development of lay-knowledge about FASD. It also shows ways in which community members try to find compromises that are reasonable to them, given the information available to them, and the beliefs and values held by the community. Our study found that the knowledge of risks leads to specific compromises taken by pregnant women. This provides a rich insight into a risk-benefit analysis occurring at an individual level.

Relationships with partners and friends have typically been described as barriers to alcohol abstinence due to peer pressure or relationship stress^{8,14,15,49}. This is consistent with evidence that South African women tend to drink in social settings and seek social engagement and support through drinking¹²⁻¹⁴. While some of our participants described interpersonal relationships that promoted drinking, others had relationships that supported abstinence. Participants in our study appeared more likely to stop drinking if their partner stopped in solidarity or if friends continued to spend time with them in non-drinking contexts or while encouraging abstinence. One participant noted the influence of her child's negative reactions to her drinking in facilitating abstinence. The potential positive effects of relationships with partners, children and friends are relatively unexplored in the literature^{49,50} and present a community-based intervention that can be explored.

However, participants did not always experience advice from partners and friends as positive, especially when there was a lack of solidarity. Two participants were excluded by partners or friends from social occasions related to drinking because of her pregnancy, and one continued to drink because she felt lonely due to this social isolation. Her example illustrates how social stigma towards drinking may be ineffective and potentially harmful. In these contexts, drinking

often represents an important social setting¹², and being excluded can be distressing. Finding healthy alternative contexts for leisure and social support is therefore vital.

In this respect, women in our study described deeper relationships with intimate partners, friends and family as being of particular benefit. Of note, all the participants that successfully abstained during their pregnancy were able to find alternative leisure activities. In contrast, those that struggled to change were unable to find alternative activities.

One participant used alcohol specifically to avoid relationship conflict. This is not a theme previously seen in the literature, though the broader concept of maternal alcohol use being influenced by the partner's drinking status is well known⁴⁹. In her example, she felt pressured into continued alcohol use by the unequal distribution of power in her relationship, with alcohol use acting as a way to 'smooth over' relationship difficulties¹⁵.

The use of alcohol to cope with life stressors is widely explored in previous literature^{12-14,19}. Women in our sample experienced similar stressors to those outlined by Choi *et al.*, including infidelity and relationship conflict¹³. Our participants described some stressors as being specific to women. This concept of gendered stress has been explored by Cloete¹² and is linked to broader societal expectations around the role of women. Stressors include stereotypically 'feminine' activities, including cooking, cleaning, childcare^{51,52}. Furthermore, participants described their alcohol use as directly related to trying to manage these stresses. Participant 6 related repeated attempts to stop drinking that were unsuccessful due to her circumstances. This is indicative of the social context which disempowers women and impairs their ability to effect change in their circumstances²⁵. Indeed that participant did describe intimate partner violence, which she normalised within her relationship.

Two personal factors contributing to ongoing drinking were cravings and habitual drinking. Habitual drinking may relate to the entrenched nature of alcohol use in this community, mirroring Cloete's findings where women felt they had limited alternative recreational choices¹². More broadly it also speaks to the issues surrounding social support especially in communities where

alcohol use is the norm. Therefore, if women try to change this behaviour during pregnancy they face potential censure from their established friend groups. Cravings for alcohol described by multiple women (which contributed to low levels of ongoing drinking in at least one case) suggests the presence of addiction⁸. Addiction has been previously identified as a barrier to abstinence in pregnant South African women¹⁴. Participants described strategies to combat these cravings, such as thinking about their unborn child's health, or enjoying a non-alcoholic beverage with friends.

Women who stopped drinking often cited strong feelings of agency about their drinking behaviour, stating they were in control of their drinking. They characterised their change in drinking as self-initiated and often in response to a desire for a healthful pregnancy or to conform to a self-perceived ideal of a 'good mother'. These findings mirror those from previous investigations regarding behaviour change during pregnancy⁵³⁻⁵⁵. While there is some inconsistency in whether pregnancy presents a specifically good time for behaviour change^{53,56}, the women in our study described their pregnancies as strong motivating factors.

Strengths and limitations

The principal investigator spent two months interacting with community members, half of which was before the conceptualisation of the research project. Prolonged community interaction improved our understanding of the culture and norms of the town and added to the authenticity of the analysis. A specific strength of this investigation is that we interviewed persons directly involved in the phenomenon in question (pregnant women reporting recent alcohol use), limiting recall bias. There are potential limitations regarding self-reporting of drinking habits. Women may have under-reported their previous or current drinking to avoid stigmatisation. However, our experience was that women were forthcoming and honest about their drinking practices.

Another limitation of this investigation was that we did not reach saturation within our sample due to logistical constraints regarding reaching the remote study site. We believe the richness of our data compensates for this, allowing a deep understanding of the lives of our participants. The findings should be seen as descriptive of the views

of pregnant women who drink in this community. The findings may be transferable to other small rural towns in the Western and Northern Cape provinces of South Africa. Characteristics that may imply similarity include rurality, entrenched drinking culture (especially weekend binge drinking), and high levels of social deprivation

Conclusion

Our findings closely reflect results in other communities while also adding new insights regarding facilitators and barriers to alcohol abstinence during pregnancy. The overlap with findings in previous studies suggests some transferability of findings from urban populations to rural ones, while also identifying key areas of difference, namely in the level of knowledge of FASD and in a consistent finding of reduced alcohol use. Further quantitative investigation into the level of knowledge of pregnant women about FASD would be of benefit to see if there has been a change over time. It was encouraging that most study participants stopped drinking in pregnancy, even if abstinence was delayed. In comparison with previous studies of South African women, our findings suggest changing social norms towards drinking during pregnancy. We report several *facilitators of abstinence* that are not well described locally. A key facilitator is that all participants, and often their partners and friends, were aware of FASD and the risks of drinking alcohol in pregnancy. While knowledge alone does not ensure behaviour change, it is an essential step towards change. Additional factors were the woman's sense of personal agency - whether she could find meaningful alternative activities and whether family and friends supported abstinence in a manner that shows solidarity. The findings on *barriers to cessation* of drinking were similar to those described in prior South African qualitative studies, namely social pressure and life stressors.

From our research findings, we would suggest that future interventions should focus on building supportive relationships for pregnant women outside of drinking contexts. This could be in the form of a peer-support group of pregnant women, or it could focus on strengthening the woman's existing social connections to close friends, family and intimate partners. While doing

so, we should be careful not to stigmatise women who are not ready to change or are struggling to change, as this may lead them to more harm.

Ethics approval and consent to participate

Ethics approval was given by Stellenbosch University's Human Research Ethics Council, reference number: U18/04/013. Additional ethical clearance was obtained to conduct the research at a Northern Cape health facility, reference number: NC_201805_002. The template of the informed consent is available on request. The recordings of the interviews have not been made available as they contain direct identifiers⁵⁷. De-identified transcripts of the interviews are available on reasonable request to the corresponding author.

Consent for publication

Written informed consent was obtained from each participant to participate in the research project and publish its results.

Availability of data and materials

The interview transcripts contain multiple indirect identifiers, which precludes public dissemination of the data. The transcriptions are available on reasonable request from the corresponding author.

Competing interests

The authors declare that they have no financial or non-financial competing interests.

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Authors' contributions

IR conceptualised the project; produced the study protocol; conducted interviews at the research site;

transcribed and analysed data; drafted the initial manuscript.

CS contributed to the study's design; assisted in the analysis of nascent themes and their grouping into themes.

MU contributed to the conceptualisation of the study; reviewed versions of the manuscript; facilitated the funding requests.

All authors have read and approved the final report.

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