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A Qualitative Study of Substance use during Pregnancy: Implications for Reproductive Healthcare in Western Kenya

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Abstract

Women who use alcohol and drugs are often in their childbearing years, creating a need for integrated substance abuse and reproductive health services. However, our understanding of the social context and drivers of substance use during pregnancy, particularly in developing countries, is limited and largely unaddressed in clinical care. Our qualitative research explored the reproductive health of women of childbearing age who inject drugs and its implications for healthcare in Kisumu, Kenya. We used in-depth, semi-structured qualitative interviews with 17 women who inject drugs to explore reproductive health topics including knowledge, practices, and clinical interactions related to substance use during pregnancy. All but one woman had a prior pregnancy and two were pregnant during our study. Alcohol and drug use was prevalent throughout pregnancy, often described as a coping mechanism for stress. Women received mixed advice from family and social contacts regarding alcohol use during pregnancy, leading to differing perceptions of its health effects. Healthcare providers infrequently screened women for alcohol or drug use. Our analysis highlights the need for culturally appropriate alcohol and drug screening and counseling to be included in integrated reproductive health services in western Kenya.

Abstract

Les femmes qui consomment de l'alcool et des drogues sont souvent en âge de procréer, ce qui crée un besoin de services intégrés de toxicomanie et de santé de la reproduction. Cependant, notre

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Declaration

JLS designed the study and conducted interviews. GR conducted interviews. All authors contributed to writing this article.

Disclosure

No conflicts of interest to declare. The content is solely the responsibility of the authors and does not necessarily represent the views of the funders.

Details of ethics approval

University of California, San Diego; The Ohio State University, and the Kenya Medical Research Institute.

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compréhension du contexte social et des moteurs de la consommation de substances pendant la grossesse, en particulier dans les pays en développement, est limitée et largement ignorée dans les soins cliniques. Notre recherche qualitative a porté sur la santé de la reproduction des femmes en âge de procréer qui s'injectent des drogues et ses implications pour les soins de santé à Kisumu au Kenya. Nous avons utilisé des entrevues qualitatives approfondies et semi-structurées auprès de 17 femmes qui s'injectent de la drogue, afin d'explorer des sujets liés à la santé de la reproduction, y compris les connaissances, les pratiques et les interactions cliniques liées à la consommation de substances pendant la grossesse. Toutes les femmes sauf une ont eu une grossesse avant et deux étaient enceintes pendant notre étude. L'usage d'alcool et de drogues était répandu tout au long de la grossesse, souvent décrit comme un mécanisme d'adaptation pour le stress. Les femmes ont reçu des conseils mitigés des contacts familiaux et sociaux concernant la consommation d'alcool pendant la grossesse, ce qui a donné lieu à des perceptions différentes de ses effets sur la santé. Les prestataires de soins de santé ont rarement fait des dépistages de drogues chez les femmes. Notre analyse souligne la nécessité d'inclure des services de dépistage et de consultation sur l'alcool et les drogues dans les services intégrés de santé de la reproduction dans l'ouest du Kenya.

Keywords

Gender; injection drug use; alcohol; pregnancy; reproductive health; Kenya

Introduction

While research has highlighted the biomedical risks associated with drug and alcohol use during pregnancy, less is known about patterns of substance use, its drivers, and the health and social repercussions for women in many parts of the developing world. Women who use drugs and alcohol are often in their prime childbearing years and in need of reproductive health services due to overlapping sexual and drug using social networks, injection drug use, and engagement in sex work that heighten vulnerability to HIV, sexually transmitted infections (STIs), and unplanned pregnancies[1–2]. Without proper antiretroviral management, pregnant women risk onward transmission of HIV to their child during pregnancy, childbirth, and breastfeeding[3–4]. Research on substance use and reproductive health has primarily focused on biomedical birth outcomes. A substantial body of clinical research on alcohol consumption during pregnancy has established strong links with adverse health outcomes, including fetal alcohol syndrome, alcohol-related neurodevelopmental disorder, and other birth defects[5–7]. Research on the health effects of drug use during pregnancy is less conclusive. Much of the research has focused on neonatal abstinence syndrome, or infants born physically dependent on opiates, yet symptomology, diagnoses, and treatment strategies have been inconsistent across the literature[8–9].

While clinical research in the context of substance abuse is foundational, it tells us little about the mothers' interactions with healthcare providers or their sexual and social networks during pregnancy that may have a bearing on their health outcomes or on the health of their children[10]. Qualitative research can inform clinical practice in obstetrics and gynaecology by providing insight into women's life experiences and perspectives[11–12], including how social

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inequalities shape birth outcomes[13] and the forms of support women need to reduce drug and alcohol use during pregnancy[14–15].

Inhorn argues that an overwhelming majority of research on women's health focuses on the clinical risk associated with poor birth outcomes and child survival[16]. Other researchers have suggested the insufficiency of focusing only on the unborn child in curbing drug and alcohol use during pregnancy[14–15,17]. In order to understand risk perception and decision making, research on women's bodies should refer to their overall experiences of inequalities in their social worlds[13,18]. Without such attention to the everyday concerns that women confront outside of the clinic, biomedical interventions may not adequately address women's needs[19]. There are powerful implications to understand the lives of women outside of their brief clinical encounters during pregnancy in order to ensure better maternal and child health outcomes[20].

Across sub-Saharan Africa, research on the overlap between substance use and reproductive health is limited and the issue is often insufficiently addressed in clinical care despite potentially harmful outcomes[1,21]. A recent systematic review from sub-Saharan Africa found limited studies, but the available data suggested from 2.2%–87% of women used alcohol during pregnancy. The most important risk-factors for alcohol use included smoking, partner violence, living in a city, and having a male partner who drank alcohol[22]. Research in South Africa has demonstrated the intersecting risk factors of alcohol use, depression, interpersonal violence, and HIV on adverse birth outcomes, including low-birth weight babies[4,23]. While this work emphasizes the need for integrated interventions that consider a multiplicity of risk factors, additional studies are needed across diverse social contexts[3]. In addition, injection drug use is a growing phenomenon across sub-Saharan Africa and available data suggest that women are particularly vulnerable to health harms[24–26]. However, research linking drug use and reproductive health outcomes are absent from this region.

Across Kenya, HIV prevalence among people who inject drugs is estimated to reach 18% for men and 44% for women[27]. Further, an estimated 5–7% of incident HIV infections in Kenya are attributed to injection drug use[28]. Compared to men, women who inject drugs bear a higher risk for HIV from interlinking sexual and drug-related factors, including unsafe injection practices, high risk sexual behaviors, and sex work in the context of drug use[2,4,29], which could have serious implications for women's reproductive health and already strained healthcare infrastructures[1–2].

Within this context, we explored the overlap of alcohol and drug use and reproductive health among women who inject drugs in western Kenya, where HIV prevalence reaches 18.7% in the general population[30]. Western Kenya is a culturally rich and complex region where political, economic, and social factors converge to create gendered health disparities. Factors such as early initiation into sexual activity, alcohol use, and experiences of sexual violence among adolescents[31], concurrent sexual relationships[32], and engagement in both formal and informal sex work[33] place women at high risk for unintended pregnancies and HIV. HIV positive women also suffer from gender-based violence and prevalent but undertreated mental health issues[34]. Gender inequalities and intimate partner violence have also been linked to poor pregnancy outcomes[35]. These interrelated factors have serious implications

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for women's reproductive health and birth outcomes, which may be exacerbated by newly emerging patterns of alcohol and drug use[2]. While alcohol has long been part of the culture in this region, injection drug use has more recently emerged in response to rapid socioeconomic changes in Kisumu amidst persistent inequalities and social stress[36]. For women, injection drug use is enmeshed within a broader context of gendered inequalities but presents additional unique challenges, as described below

Methods

Study design & population

From October 2013 to August 2014, we conducted a mixed methods study of injection drug use and HIV risk in Kisumu, Kenya. The project was conducted in partnership with a non-governmental organization (NGO) that recently launched services for people who inject drugs. Researchers worked with peer educators from the NGO to locate participants using targeted sampling in areas of Kisumu where injection was known to occur. Snowball sampling was also used to reach deeper into injectors' social networks. Researchers privately screened individuals based on eligibility criteria: being at least 18 years old, reporting injecting drugs in the past month, and having physical evidence of injection. Eligible men and women provided written consent for surveys conducted in English, Kiswahili, or Dholuo (the local language), based on preference.

In total, 151 men and women who reported past month injection drug use completed surveys assessing socio-demographics, sexual behaviors, alcohol and drug use, and injection risk behaviors. In addition, a sub-set of 29 individuals were purposively selected based on gender and drug use patterns to participate in in-depth interviews to contextualize the survey data and further characterize drug use and HIV risk. Based on both the quantitative and qualitative data, clear gender disparities emerged. The majority of women had multiple pregnancies and children they exclusively cared for within a context of pervasive sexual risk, including rape, unprotected sex, and sex work. Women were also four times more likely to report being HIV positive compared to men[2].

Given these findings, in 2014, we received additional funding to conduct follow-up qualitative interviews to further explore reproductive health issues among this high risk group of women. All women who participated in the initial survey (n=24) were informed of the sub-study by a female Kenyan research assistant (RA), who invited them to participate in follow-up interviews to learn more about sexual and reproductive health issues, including healthcare access and use. In total, 17 of the 24 women from the original sample completed interviews from October 2014 to February 2015. The RA could either not locate the remaining women, or women had migrated and were unable to participate. Protocols were approved by ethics reviews boards at the University of California, San Diego, The Ohio State University, and the Kenya Medical Research Institute.

Data collection and analysis

This study draws from follow-up qualitative interviews with 17 women who inject drugs. Participants provided additional written informed consent for semi-structured interviews

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focused on sexual and reproductive health, including drug and alcohol use during pregnancy, healthcare access, and interactions with healthcare providers. The interviews, which lasted up to 90 minutes, were conducted at the study offices by the PI (JLS) or Kenyan RA (GR) in the language of women's choice (English, Swahili, or Luo). Participants were given a choice of where to be interviewed, but preferred to come to the study office, as they were already familiar with the location and could access services from the on-site clinic. Interviews were audio-recorded, transcribed, and translated by the RA for text analysis.

The PI and a graduate research assistant (GRA) developed an open coding scheme based on emergent themes in the data. The team read through all of the transcripts, took notes on themes, and collaboratively developed a draft codebook. The GRA (KAY) coded two transcripts and shared them with the PI, who reviewed the coding and approved a revised codebook. KAY coded all transcripts and wrote memos to draw attention to remarkable events and identify relationships emerging between codes, and met regularly with the PI to discuss and resolve any coding issues[37].

We used a social ecological systems framework to analyze our data and situate our findings in the broader social and clinical structures that influence women's reproductive health[38]. A social ecological systems framework assumes that reproductive health choices take different form in different contexts, and are contingent on a range of socio-cultural, ecological, and political circumstances. This approach avoids blaming individuals for poor decision making to instead consider the various ways in which women's agency is constrained[38]. Below we present the major themes related to substance use and reproductive health with key quotes from participants to illustrate each theme. To protect women's privacy, we use pseudonyms.

Results

Characteristics of women

Participants included 17 women with average age of 26 years (range: 20–35). Seven women reported at least a high school education and only three had regular employment, but lifetime engagement in sex work was common (n=14). The majority of women were unmarried (n=15). All but one woman had a prior pregnancy and at least one child and two were pregnant during our study. Per study eligibility criteria, all women reported injecting drugs in the past month, 14 of whom also reported alcohol use during the same time period. Nearly half (n=8) self-reported to be HIV positive. All women with previous pregnancies (n=16) in our sample reported using alcohol, drugs, or both during pregnancy. Most women (n=15) reported missing prenatal visits and several (n=6) reported poor pregnancy outcomes, including low birthweight babies, miscarriages, or neonatal mortality.

We identified three major interconnected themes across women's stories: 1) the social context of substance use, including gender inequality and social suffering as driving factors of continued use during pregnancy, 2) conflicting sources of information and disjuncture in decision making regarding substance use and its health effects in pregnancy, and 3) healthcare interactions biased toward HIV screening over alcohol and drug screening and education.

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The social context of substance use during pregnancy

Across each woman's story, interrelated themes of gender inequality, loneliness, frequent local migration, violence, rape, extreme poverty, and the enormous responsibility of childcare undergirded women's substance use. Themes of stress as a result of women's burdens frequently drove continued use of alcohol or drugs during pregnancy. Kainda, 20, drank "all" types of alcohol on average 6 days a week during her pregnancy.

Many women were the head of their households, yet reported an inability to provide regular food for their children, which often led them to engage in sex work. Drugs and alcohol, used concurrently with sex work, sometimes continued during pregnancy. Ivory, 20, noted that while she tried to reduce her drug use, her difficult struggle with poverty and the need to provide for her children drove her to do "evil things" (alcohol use and sex work). Similarly, when Aluna, 22, was asked why she continued to inject drugs during pregnancy, she noted that drugs made sex work tolerable:

> Q: … Did you seek help to reduce the use of the drugs when you were pregnant?
>
> A: No, I couldn't because if I did then I would be discouraged in using them, hence would have lost the psyche to continue with my [sex] work because it's the drug that gives me psyche to continue with the work.

Social relationships also played a key role in women's continued substance use during pregnancy. Winnie, 27, suggested that boredom, stress, and disagreements with her partner drove her to continue drinking while pregnant. Although he tried to discourage her, he was a "drunkard" who kept alcohol at home, which sometimes drove her to "drink like hell" out of spite. Taken together, these data suggest that an interplay of structural and social factors in women's lives shaped their alcohol and drug use, which frequently continued through their pregnancy even in light of advice to quit, as described below.

Sources of knowledge and decision making around substance use and its health effects

Our data suggest a disconnect between knowledge, practices, and beliefs related to drug and alcohol use during pregnancy. Women often received conflicting information from family members, friends, and other social contacts, and these networks did not always deter women from drug and alcohol consumption during pregnancy. Esther, 23, said she felt "indifferent" to advice from friends, while Kainda claimed a "bitter exchange of words" ensued after friends advised her to cut down her use. Women also reported limited ability to follow advice to reduce their alcohol and drug use, which is in turn linked back to their stress and created feelings of guilt. Lilac, 24, discussed her stress and inability to heed advice to quit drinking:

> Yes, a friend of mine advised me not to drink when am pregnant, but I couldn't listen because I was stressed because when I took alcohol, I felt better… She said that I should stop drinking when I'm pregnant, as it would interfere with the unborn child. But I didn't listen because I was so stressed so I continued drinking… they were just disgusted with me [but] I did not have the thought of getting any help.

In contrast, we also found that some friends offered inaccurate information to expectant women, particularly in terms of the health effects of alcohol use on the child. Ivory noted

that her girlfriends told her that drinking during pregnancy could have positive effects, recounting: "I was told that alcohol cleans the fetus; you give birth to clean and healthy child…" Similarly, Mercy, 24, was advised that a "small quantity" of alcohol was beneficial: "It's said that alcohol cleans the baby in the womb." Several other women suggested positive effects of alcohol use during pregnancy, including its use to reduce the pain during labour and childbirth, illustrated by Leticia, 22: "When chatting, my friends used to say that if you are in labour and drunk you cannot feel any pain, so I used to try to get drunk." Two other women in our sample alluded to going into labour or giving birth while drunk.

However, other women perceived detrimental effects of substance use during pregnancy. Despite her continued alcohol and drug use during pregnancy, when asked if she felt that this affected her child, Kainda replied, "Seems like my child was affected because I gave birth to a child who weighed less than what is ideal" (she reported the child weight 2.2 kg). Similarly, Aluna said, "Yes, it [drug use] affected my health because my baby didn't breastfeed for two days after delivery (this infant's HIV status was pending confirmation at the time of the interview)."

Healthcare interactions: Focus on HIV/STIs over alcohol and drug use

In general, healthcare providers were primarily focused on women's HIV/STI status during pregnancy, and offered near universal testing and treatment. Typically, providers did not screen for drug or alcohol use systematically, if at all, and referrals were not provided. Most women did not openly disclose their substance use during clinical interactions unless they were explicitly asked about it. Ivory noted, "I didn't tell them that I drink alcohol" nor did her healthcare providers ask.

In one extreme case, Norma, 27 and HIV negative, was pregnant at the time of her interview. Already a mother of four, she recently lost her fifth child to meningitis. Her healthcare provider emphasized reduction of alcohol, but encouraged continued drug use for fear that quitting would harm her:

> "Another doctor one day she asked me and I told her, because she (the baby) is in the my body, I told her I don't lie I have just drugged myself. She told me that "Anyway if you are drugging yourself, I cannot tell you to leave it, don't do that. Something I can tell you is that smoking, don't smoke. Leave smoke. Even those rwatawata za nini (spirits), don't drink. Just inject yourself only." So in this time I am not doing with those more drugs; I am afraid. But I inject… she told me "because you are injecting every month I cannot remove you in that thing because it is a thing that I see in your body. It is there. If I told you to leave it you can die or you can become confused. But I don't want to be confused with your condition (pregnancy). Even with your stress you have, I don't want [that].".

Discussion

Drawing on a social ecological systems framework, our results situate substance use and reproductive health in western Kenya as embedded within the social and clinical structures that shape women's everyday lives. Using a social ecological systems framework means

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pulling out the factors from the broader context that exacerbate health issues and drive drug use. This also allows us to understand how these risk factors interact with each other in synergistic ways[1]. In this conceptualization, drug and alcohol use is not reduced to a poor individual choice by women, but rather reflects the challenging circumstances and stresses that women endure.

The prevalent alcohol use during pregnancy that we documented reflects broader patterns of use in western Kenya[40,42]. Our results also echo other research on alcohol use throughout women's reproductive lives as driven by socioeconomic factors such as poverty, stress, mental health issues, and violence[39]. In western Kenya, gendered inequalities are rooted in women's limited access to steady employment, education, and healthcare, which increase their exposure to various forms of gender-based and structural violence[4, 23–24,32]. In our larger survey with people who inject drugs, women were more likely than men to be HIV positive, have lower levels of education, and be the primary caregivers of all or most of their children[2,36], findings which provided the impetus for us to undertake the qualitative interviews documented in this article. Women's pregnancies, often unplanned, may be an additional burden as they contemplate how they will feed their children in light of limited support from their children's fathers[40]. Our findings suggest that in addition to the high prevalence of alcohol use found within this sociocultural context, injection drug use represents a temporarily escape the struggles of everyday hardship[40–41]. Ultimately, the stressful context of pregnancy left the women in our study unable to quit or cut down on their alcohol and drug use during pregnancy.

Our findings also shed light into the quality of information and the means by which information flows within women's social networks and communities. Research suggests the importance of understanding the communication channels through which information is spread, and the types of information that flows through such channels[14,21]. In our study, women received information through multiple channels about the adverse effects of substance use during pregnancy, including encouragement to quit. However, this information alone was insufficient for many women to quit while pregnant because of their stress and other social conditions. While many women and members of their social networks were cognizant of its harmful effects during pregnancy, information may also be inaccurate or deemed untrustworthy by women[41]. For example, folk beliefs such as alcohol "cleaning the baby in the womb" have not been documented in the literature to our knowledge, but warrant further investigation.

Drawing on a broader social ecological systems framework also enabled us to turn our gaze towards the level of healthcare in the community, rather than focusing solely on the women. We found that injection drug use was often not on the radar of clinicians who provided services to pregnant women, leaving unaddressed opportunities to screen, counsel, and offer other services for drug and alcohol use. In addition, such screening has implications for the health of infants. While we cannot imply causality, there were a significant number (6 out of 16 women with prior pregnancies) of poor birth outcomes including miscarriage, low birth weight, and neonatal mortality among the women in our sample. Overall, our results suggest the importance of addressing alcohol and drug use in the broader context of reproductive healthcare provision and birth outcomes in western Kenya. The lack of awareness around

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drug use and its health effects is a broader public health issue in the region requiring a multidisciplinary response[36].

Strengths and limitations

Our small sample size and qualitative design limits the generalizability of our findings. Drug and alcohol use was based on self-report and may be affected by recall bias or social desirability bias. As a strength, qualitative research can inform providers about patient's experiences and needs, including potential barriers and solutions in resource constrained settings[11].

Implications for healthcare

Qualitative research is central to understanding women's reproductive health and can help direct services, resources, education, and outreach where it is most needed. This study is pertinent for clinicians in other settings who deliver care to women of reproductive age who may engage in drug and alcohol use and sex work. Several recommendations for healthcare emerge from our study.

First, our study suggests the need for culturally appropriate education for healthcare providers and women of childbearing age. Tran and colleagues[39] suggest designing interventions related to substance use throughout the reproductive life course rather than focusing on the short window of pregnancy. Strategies could include developing infographics and communication tools like those promoted by the World Health Organization and the United Kingdom Department of Health to educate providers and women[43–44]. Critically, educational materials should be locally appropriate, sensitive, and respectful to women.

We also recommend building clinical capacity, including provider training on alcohol and drug use screening, non-judgmental responses in implementing such programs, and building robust referral networks. Short screening tools like the Alcohol Use Disorders Identification Test (AUDIT) and Drug-Abuse Screening Test (DAST) could be integrated into reproductive health services for women without placing excessive burden on providers, and future research could assess their effectiveness in clinical contexts[45–46].

As treatment programs are few and costly in western Kenya, it is important that women who screen positive for substance use have access to support. Future research could develop and pilot social support groups, including comprehensive approaches integrating medical, economic, and social assistance.

Finally, we need to understand substance use as embedded within broader social ecological systems of health. Programs for women should be holistic and integrated, accounting for contextual factors that initiate substance use and sustain it during pregnancy[47]. Integrating HIV/STI care, alcohol and drug screening and education, programs to address violence and mental health, and linkages to economic and material support for women outside of clinical settings as part of an enhanced health systems approach could improve maternal and child health in Kenya.

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