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A Qualitative Exploration of Intimate Partner Violence Among HIV/TB Coinfected Persons With Problematic Alcohol Use Participating in an Incentive-Based Alcohol/Medication Adherence Intervention in Uganda During COVID-19

Amanda P. Miller[1], Ayesha Appa[2], Winnie Muyindike[3], Robin Fatch[2], Allen Kekibiina[3], Brian Beesiga[4], Julian Adong[5], Nneka Emenyonu[2], Kara Marson[2], Monica Getahun[6], Moses Kamya[4], Gabriel Chamie[2], Carol S. Camlin[7] and Judith A. Hahn[2]

Abstract

In Uganda, four in ten women report experiencing intimate partner violence (IPV) in the past year. Salient drivers of IPV in sub-Saharan Africa include stress related to household finances, alcohol use, and partner infidelity. We conducted 42 interviews

[1]School of Public Health, San Diego State University, San Diego, CA, USA
[2]Division of HIV, Infectious Diseases, and Global Medicine, Department of Medicine, University of California San Francisco, San Francisco, CA, USA
[3]Global Health Collaborative, Mbarara University of Science and Technology, Mbarara, Uganda
[4]Infectious Diseases Research Collaboration (IDRC), Kampala, Uganda
[5]Faculty of Medicine, Mbarara University of Science and Technology, Mbarara, Uganda
[6]Institute for Global Health Sciences, University of California San Francisco, San Francisco, CA, USA
[7]Department of Obstetrics, Gynecology & Reproductive Sciences, University of California San Francisco, San Francisco, CA, USA

Corresponding Author:
Amanda P. Miller, School of Public Health, San Diego State University, 5500 Campanile Drive, San Diego, CA 92182-7455, USA.
Email: apmiller@sdsu.edu

with participants ($n = 32$) in the Drinkers' Intervention to Prevent Tuberculosis (DIPT) study which included economic incentives, and their partners ($n = 10$) to understand how participating in DIPT during COVID-19 lockdown restrictions impacted relationship dynamics in intimate partnerships. Our findings highlight the need to develop policies to address root causes of IPV and to ensure continuity of IPV services in future pandemics. Policy and programming recommendations based on study results are presented.

Keywords
alcohol use, intimate partner violence, relationship conflict, latent tuberculosis infection, COVID-19, Uganda, economic incentives

Introduction

Intimate partner violence (IPV), defined as psychological, physical or sexual harm perpetrated by a current or former intimate partner (World Health Organization, 2010), is a prevalent public health issue globally; one in three women have experienced IPV. In Uganda, over half (56%) of currently or previously married women have experienced some form of IPV and four in ten women report experiencing violence in the past 12 months (Uganda Bureau of Statistics and ICF, 2018, 2019). This is especially problematic in the context of prevalent HIV co-infection, as IPV is both a risk factor for HIV infection (e.g., through forced sex and reduced ability to safely negotiate condom use) (World Health Organization, 2004) and a consequence of HIV infection (that is, violence due to status disclosure) (Campbell et al., 2008; Li et al., 2014; Maman et al., 2002). IPV is also a risk factor for poor HIV treatment adherence and may similarly affect adherence to other medications such as TB preventive therapy and treatment among persons living with HIV (PWH) (Bagherzadeh et al., 2023; Hatcher et al., 2015). Patriarchal gender norms act to reinforce unequal power dynamics in relationships and normalize violence against women (Koenig et al., 2003; Masculinities under Neoliberalism, 2017).

Beyond this overarching driver of IPV, research suggests that three additional salient drivers of relationship disputes and IPV in Uganda are stress related to household finances, alcohol use, and infidelity (which frequently occurs in the context of alcohol use and can lead to allocation of financial resources outside of the primary partnership) (Miller, Ddaaki, et al., 2021; Miller, Ziegel, et al., 2021). A robust global body of literature has identified alcohol use as a cause of violence (Leonard & Quigley, 2017; Ramsoomar et al., 2021); it increases aggression and reduces one's ability to deescalate disagreements, which can result in IPV (Deering et al., 2014; Foran & O'Leary, 2008; Leonard, 2005; Testa et al., 2012). Economic insecurity is also a risk factor for IPV (Okumu et al., 2022) and prior research suggests that alcohol use can indirectly lead to marital conflict when money is spent on alcohol instead of other household needs (e.g., school tuition, and food) (Bonnevie et al., 2020; Miller, Ddaaki, et al., 2021; Murray et al., 2021). Collectively, the associations between

these risk factors for IPV suggest that improvements in economic security and alcohol use could positively impact relationship dynamics and experiences of IPV. For example, participation in an incentive-based intervention that targets alcohol reduction could address two underlying causes of relationship conflict in this setting: alcohol use and financial strain. Similarly, experiencing a pandemic and national lockdown that contribute to a loss of income, and influence affordability and access to alcohol for many residents may impact experiences of IPV and marital conflict.

In March 2020, the Ugandan government instituted a stay-at-home order to curb COVID-19 transmission, restricting movement and consequently reducing opportunities to earn income in a country where the vast majority of individuals (>87%) are employed in the informal sector (i.e., workers who are neither taxed nor monitored by the government and therefore without social protections) (Suubi et al., 2022). Prior to the pandemic (2019) 18.7% of Uganda's population lived below the national poverty line (defined as living off less than $2.15 USD per day) while reports from 2021 indicate an increase in the prevalence of poverty to 21.9% (World Bank, 2023). Furthermore, the strictly enforced lockdown resulted in individuals being confined to their households and detached from their social support networks. For those experiencing violence, this meant increased time isolated with their perpetrator. Globally (Aguero, 2021; Kgaugelo, 2020; Sharma & Borah, 2020; World Health Organization, 2021) and specifically in sub-Saharan Africa (Consolata & Fredrick, 2020; Mahmud & Riley, 2021; Miller, Mugamba, et al., 2022; Ojeahere et al., 2022), lockdown measures were associated with increased incidence of IPV. Research on the impact of the pandemic and stay-at-home policies on alcohol use has been less conclusive, with some studies finding increased alcohol use and others reporting a decrease (Acuff et al., 2022; Consolata & Fredrick, 2020; Mahmud & Riley, 2021; Ojeahere et al., 2022). Taken together, the impact of the pandemic and lockdown on finances, alcohol use, social isolation, and agency may have produced a perfect storm of risk factors for IPV (Lyons & Brewer, 2021). The lockdown was lifted at the end of May 2020 (a subsequent lockdown was implemented in June 2021) with some businesses and public transport reopening, but the economic impact and social isolation of the lockdown persisted, which may have led to continued stress, discord, and violence at home (Beesiga et al., 2023; Our World in Data team, 2023; World Bank, 2023).

Heavy episodic drinking is common among those who engage in any alcohol use in Uganda (World Health Organization, 2018). In addition to being a stand-alone health issue, heavy drinking is a risk factor for numerous additional poor health outcomes (in addition to IPV) including incident HIV (Zablotska et al., 2006), poor adherence to antiretroviral therapy (ART) among PWH (Hendershot et al., 2009; Miller, Pitpitan, et al., 2021; Velloza et al., 2020), and poor care seeking and treatment adherence for other co-morbidities, including TB preventative therapy (Stuurman et al., 2016). The Drinkers' Intervention to Prevent Tuberculosis (DIPT) study was a financial incentive-based intervention to reduce heavy alcohol use and improve latent TB treatment adherence among PWH and co-infected with TB in Uganda. After anecdotal feedback from spouses of participants which suggested that participation in DIPT was improving their home life due to their partners' reduced alcohol use, we

decided to qualitatively explore this topic further among participants and their spouses. The qualitative data collection was conducted from July 2020 to January 2021 during the DIPT trial, and thus it occurred in the context of the COVID-19 lockdown, a time of heightened financial strain. The main goal of this analysis was to explore factors that impact experiences of IPV and to understand how alcohol use and the co-occurring COVID-19 pandemic, key drivers of IPV, were perceived to affect risk of conflict and IPV. We also explored discordance in reporting violence within intimate partnerships.

Materials and Methods

Study Design and Data Collection

Parent study. DIPT (ClinicalTrials.gov number NCT03492216) is a randomized, 2×2 factorial trial among adults in four HIV clinics in Uganda. The study has been described in detail previously. (Lodi et al., 2021) In brief, we recruited eligible participants from participating clinics in the study communities. Eligibility criteria included being an adult PWH, having a positive Alcohol Use Disorder Identification Test—Consumption (AUDIT-C (Bradley et al., 1998; Bush et al., 1998)) score ($\geq$3 for women and $\geq$4 for men, the recommended cutoff for hazardous alcohol use), and having a positive urine ethyl glucuronide (EtG) test (an objective measure of recent alcohol use with a cutoff of 300 ng/mL) (Alcover et al., 2022). Additional inclusion criteria included current ART use, no history of current active TB or TB medication, latent TB infection (positive tuberculin skin test $\geq$5 mm induration), liver enzymes less than twice the upper limit of normal, fluency in Runyankole and/or English, residing within a travel time of two hours/60 km of a study site, and having no plans to relocate in the next six months. Participants were randomized into one of the four study arms: (1) enhanced standard of care control (no incentives), (2) financial incentive contingent on no recent alcohol use based on a urine EtG test (cutoff, 300 ng/mL), (3) financial incentive contingent on recent isoniazid (INH) adherence based on a urine IsoScreen test, and (4) financial incentive contingent on both. Participants in the incentive arms provided urine samples at follow-up visits (weeks 2 and 4, and monthly thereafter up to week 24) to determine eligibility for incentives. Incentives were lottery scratch cards for cash prizes. The number of lottery cards won at each visit increased by one for each prior successful visit and was reset to one for prior non-success.

At the baseline DIPT visits (May 2018 to August 2021), participants completed an interviewer-administered survey which collected sociodemographic and behavioral data including self-reported alcohol use. Questions regarding IPV (measured using an adapted version of the conflict tactics scale (CTS), a globally validated measure of IPV (Straus, 1979)), were added in August 2019. Regardless of study arm, all participants started a 6-month course of INH and received brief counseling on alcohol use and adherence.

Qualitative study. In addition to these DIPT study visits, at 6 months after enrollment we purposively sampled a subset of participants for participation in qualitative in-depth

interviews (IDIs). This sampling technique was used to maximize heterogeneity in the perspectives captured by ensuring inclusion of an adequate number of individuals across several strata: study arm, study site, sex (with target 25% women, reflective of PWH with latent TB and unhealthy alcohol use), and alcohol (EtG) and INH-related (IsoScreen) urine testing results. Selected participants were asked to invite a spouse, partner, or close family member who was familiar with their involvement in DIPT to participate in a separate IDI. The focus of the participant IDIs was to elicit participant experiences with unhealthy drinking, and INH and ART adherence, understand how these experiences may have changed during the intervention, and examine the impact of receipt of financial incentives on economic well-being, interpersonal relationships (including IPV), and health behaviors. The spouse IDIs covered these same topics, but also explored how their partner's experience in DIPT impacted their relationship, alcohol use, and INH and ART adherence. Shortly after the COVID-19 pandemic began, but prior to data collection, additional questions were added to IDI guides to capture the effects of the lockdown. Interview materials were developed in English and translated into the local language, Runyankole, and interviews were conducted by trained Ugandan research assistants fluent in Runyankole in private rooms within the four participating health centers. Participants provided informed consent prior to starting the interview. IDIs were audio-recorded (with participant consent), and participants were compensated for their transport costs. Interviews followed semi-structured guides and lasted between 57 and 143 min. Summary notes were compiled by the research assistant on the same day the IDI was conducted to capture additional interviewer reflections regarding participant demeanor and interview responses. IDIs were translated into English during the transcription process by multilingual experienced qualitative research staff fluent in both English and Runyankole familiar with the cultural context of the interviews and a transcriptionist, jointly.

Ethical conduct of research. We obtained written informed consent from participants prior to enrollment in their preferred language (English or Runyankole). Consent was provided separately for the overarching DIPT study and the qualitative component. We obtained ethics approval for this study through the Institutional Review Board at University of California, San Francisco (17-22727), the Mbarara University of Science and Technology Research Ethics Committee (17/09-17), and the Ugandan National Council for Science and Technology (SS 4559).

Measures

Interview guide questions were organized into eight domains of inquiry: (1) Household structure and composition, mobility, and livelihoods, (2) Perceived social status and social support, (3) Intimate partnerships (relationship quality, communication, and trust), (4) HIV-related stigma and disclosure, (5) Attitudes, beliefs, and experiences with heavy drinking, (6) Subjective norms, attitudes, and experiences related to interpersonal violence, (7) Knowledge, attitudes, beliefs, and experiences with INH and ART, and (8) Experience with the intervention. Questions within these domains

were tailored to the participant intervention arm assignment or in the case of intimate partners, their partner's assignment. Guides were semi-structured and included probes to elicit rich and detailed participant responses (Robinson, 2023).

Data Analysis

Our primary analytic objective in the present study was to understand how participation in the DIPT study and the COVID-19 lockdown restrictions impacted relationship dynamics in intimate partnerships. The interpretivist paradigm (a research paradigm that emphasizes the subjective nature of human experience (Braun & Clarke, 2006)) was applied in recognition that people assign meaning to their lived experiences differently. A total of 56 IDIs were conducted with participants ($n = 32$), their spouses ($n = 10$), and family members and friends ($n = 10$); the present analysis was restricted to the 32 IDIs with participants and 10 with spouses. We restricted to these transcripts given our overarching objective of understanding how participation in the intervention and the COVID-19 pandemic and lockdown impacted relationship dynamics in intimate partnerships, specifically.

Codebook development was iterative and utilized both a deductive and inductive approach. We applied interpretive thematic analysis to guide our analytic process, which is a flexible methodology well-suited for application across qualitative research paradigms, and theoretical and epistemological approaches (Braun & Clarke, 2006). An initial coding framework was developed based on research questions and objectives of the study. This framework was subsequently modified and refined collaboratively by the investigators and field team at pre-defined stages in the coding process, in monthly analysis meetings. Transcripts were reviewed and coded by a team of researchers using Dedoose qualitative software. An initial batch of transcripts was reviewed in parallel until codebook finalization and consensus was achieved. The remaining transcripts were subsequently coded; emergent themes were synthesized and organized into a memo. All 42 transcripts were treated as independent pieces of data for the initial analysis and memoing activities (i.e., no triangulation of dyad data). For the dyad analysis, memos from interviews with matched dyads were reviewed together for convergent and divergent narratives, and a summary memo for each dyad was created. Data analysis, synthesis, and manuscript development were team-based with members of the team reflecting an international interdisciplinary group including members with extensive qualitative research experience, expertise in alcohol use and IPV research in sub-Saharan Africa, and many years of experience working in the study setting.

Throughout the study design and analytic process, steps were taken to improve the rigor of our research through a focus on the evaluation criteria for assessing trustworthiness established by Lincoln and Guba (1985): transferability, consistency, credibility, and confirmability. Our use of a form of purposive sampling, open-ended questions, and a semi-structured interview guide promotes transferability of our findings to our population of interest. Having two researchers independently coding a small batch of transcripts to establish consistency of code application and to finalize codebook definitions promotes dependability of our code application process. Finally,

our use of debrief meetings with the qualitative research team which included members of the study communities and our reflexive team-based approach to analysis and interpretation served as a potential check on researcher bias, promoting the credibility and confirmability of our findings.

Results

The sample consisted of 32 DIPT participants (38% [$n = 12$] were female) and 10 spouses (90% [$n = 9$] were female). DIPT participants' age ranged from 24 to 60. Data on spouses' age was not collected. 47% ($n = 15$) of DIPT participants in our qualitative sample reported no partner at the time of the interview. Of the ten participating dyad couples, seven were HIV seroconcordant (both partners living with HIV), while three couples were serodifferent (the spouse of the DIPT participant was HIV negative). Representation was balanced across the four study arms with 7–9 participants from each arm participating in the interviews.

Perceived Causes of Relationship Strain, Arguing, and IPV

Participants identified several underlying causes for conflict and IPV in relationships but the most encountered were alcohol use, finances, and infidelity. Narratives described how alcohol use led to IPV through several pathways: the intoxicated partner was more likely to argue or fight while under the influence, the non-drinking partner was angry at the intoxicated partner for their behavior while intoxicated (including infidelity), which led to fighting, or the non-drinking partner was angry over finances spent on alcohol that were needed to cover other living expenses.

> [My wife and I] quarreled over paying school fees for our children. With my first wife, when our children were chased from school, she quarreled over where I would put my money. It reached an extent of [her] telling me I have another wife who is consuming all the money that I get, and how I have neglected the children for women and alcohol. I got annoyed that day…I did not fight her as such. We pushed each other, but if she had not run away, I was determined to beat her. (Male DIPT participant in the alcohol reduction incentive arm)

> Sometimes you come home from taking alcohol and she locks you outside or intentionally delays opening [the door], so when you get in the house then you find you are giving her some slaps. (Male DIPT participant in the arm receiving both incentives)

Financial strain was also mentioned as a root cause of marital strife and IPV outside of the context of alcohol use.

> [In response to the question, what caused violence in your relationship?] We still had a lot to achieve then; we were renting, and had to buy food and the like. He would go out and spend the money, and expect me to keep quiet about such, which was impossible. (Female spouse of DIPT participant who was in the INH adherence incentive arm)

Other less frequently mentioned causes of IPV were serodifferent HIV statuses and infertility struggles.

Impact of COVID-19 on Finances, Alcohol Use, and Relationship

Most participants reported experiencing financial strain because of the COVID-19 pandemic and lockdown. Many individuals who owned small businesses described being unable to work during the lockdown and losing one or both household incomes for a period. Individuals living in villages described a safety net from being able to grow their own food or acquire food inexpensively in the village. However, the loss of cash income meant other basic needs such as medical expenses and school fees (when schools reopened) could not be covered without borrowing money.

> In the last six months, we have experienced a lot of poverty [because of the] COVID-19 pandemic and whenever we would lack something at home or [fail to] pay bills and buying other necessities at home, we would end up quarrelling. (Male spouse of DIPT participant who was in the arm receiving both incentives)

These financial challenges led many to reduce their alcohol intake or stop drinking entirely to curb spending.

> [My husband] did not consume alcohol during the COVID-19 lockdown because he was worried of what to feed his family. We all stopped working during that time, and bars got closed during that time. He did not enjoy [alcohol] during that time because his entire mind was thinking about what to feed his children. (Female Spouse of DIPT participant who was in the arm receiving no incentives)

The effect of COVID-19 on relationships was also described by some women. Many families who previously spent much of the week apart while one spouse was at work in town found themselves confined together. One man who drives a boda boda (motorcycle taxi) for a living described how he and other men in his community would drive somewhere and park just to get out of the house. Several female participants described increased arguing, IPV, and demands for sex from spouses, causing marital strain.

> Before the outbreak of COVID-19, men would go and work, and come back in the evening with money to cater for their families, but because of COVID-19 lockdown both husband and wife keep being at home without working. You meet some women complaining that they are tired of being beaten. (Female DIPT participant who was in the INH adherence incentive arm)

The underlying causes of IPV mentioned (alcohol use, infidelity, and financial strain) were unchanged from those prior to the pandemic but the context of the lockdown seemed to exacerbate tensions. One participant described how her husband's infidelity was uncovered because of the stay-at-home order, leading to IPV.

> Of course when you [are confined to your home together] you cannot fail to exchange words, there was a woman who used to contact [my husband] on phone during the lock-down, whenever he was to pick her calls, he would first move away from where I am, that would make us quarrel because I discovered she is [someone he has a romantic relationship with], and that made us separate beds for a month. He even beat me over refusing his conjugal rights. (Female DIPT participant who was in the arm receiving both incentives)

Reduction of Alcohol Use Through the Intervention was Described as Positively Impacting Relationship Dynamics

Several participants and/or their spouses described a positive impact from participation in the intervention on their finances and their alcohol use, which subsequently improved things in their home life.

> He even started saving some money, because all the money he was spending on buying alcohol would be used to do other things, like buying children's books, [and] paying their school fees. Instead of buying alcohol, now he can think of buying fish and some passion fruits, and when he even goes to town, he buys some fruits and fish as recommended [by the study counselors], so that he may look healthy. This way, he will think of buying beneficial things, unlike when he was drinking alcohol and all he thought about was going to the bar. He also thinks of buying his children some bread, because he knows that in this way, they will be happy. (Female spouse of DIPT participant who was in the arm receiving both incentives)

> During that time when he would drink a lot, he would quarrel and make me peaceless, but now […] we have peace in our home because he drinks less alcohol. (Female spouse of DIPT participant who was in the arm receiving no incentives)

Dyad Discrepancies in Reporting

Out of ten intimate partner dyads included in the study, six dyads had discrepancies in reporting between partners. These discrepancies centered on three topics: (1) continued/ongoing alcohol use, (2) finances/communication in the relationship, and (3) IPV in the relationship. There were several instances where male participants reported never perpetrating IPV against their current partner while the female spouse reported a history of violence, as evidenced by the conflicting reports from this couple:

> No you don't need to use violence, because she may be not feeling well, like my wife who usually falls sick of asthma or not in mood for sex. You do not need to beat her because she refused to have sex with you. (Male Spouse)

> [In response to the question, "How often does he force you to do sexual things?"] It is many times since we got married. It is over twenty times. He has beaten me many times and now he spares me a bit compared to the past after realizing that I am always weak because my asthma condition worsens every day. And I think he realized that he will kill me one time, because he has been beating, and I would even go to the clinic to seek treatment. He likes beating. (Female Spouse)

Another couple described how the financial strain of the COVID-19 lockdown led to a lack of trust and suspicion between partners; the male spouse described a loss of income while the female spouse believed that he was lying and spending his money at the bar. This ongoing disagreement led to the male spouse moving out of the home.

> They started paying me in installments and I informed [my wife] but she kept saying I was given full salary and was spending it in bars. When I delay [being] out, she believes I am wasting money there. (Male Spouse)

> My husband has a drinking problem, and I tried to counsel him and advised him since we were already HIV positive, "why not stop?" In addition, the coronavirus was becoming a worrying situation, and the money that would be used on children is what was being used in the bar. We continued arguing about [money] and [he said] I was not going to stop him from drinking. So, when it got worse he decided to leave home and that I was nagging him. (Female Spouse)

Discussion

In this qualitative exploration of the dynamics between alcohol use, financial stress, and IPV in the context of the COVID-19 pandemic, several key themes emerged. Our findings suggest that participation in interventions that address salient upstream drivers of IPV, such as alcohol use, may positively impact relationship dynamics and experiences of violence. Our results also highlighted the financial strain that the COVID-19 pandemic and lockdown created for DIPT participants and their spouses, and the impact of that strain on their relationship dynamics. When discussing the intervention, participants described how reducing their alcohol use (which they often attributed to the intervention) improved their home life, increased financial resources available to cover other household needs, and reduced marital conflict. However, the interviews were conducted just after the relaxing of COVID-19 lockdown restrictions, an unprecedented set of circumstances that increased poverty (Buheji et al., 2020) and IPV (McNeil et al., 2022; Thiel et al., 2022; Wake & Kandula, 2022) globally and led to quarreling and conflict among many DIPT participants and their partners. As such, participant narratives were often through the lens of their experience of the ongoing pandemic which overshadowed other themes as responses frequently circled back to the impact of the lockdown. Finally, discordant reporting of IPV and alcohol use within couple dyads in this study underscores gender differences in experiences of and discussion of IPV. Suggestions for how these findings can inform the delivery of IPV prevention programming and future IPV research are detailed below.

The DIPT study was conducted in sub-Saharan Africa, where financial strain (economic and food insecurity) and alcohol use are recognized as underlying causes of IPV (Hatcher et al., 2022; McCloskey et al., 2016; Miller, Ddaaki, et al., 2021; Miller, Ziegel, et al., 2021; Okumu et al., 2022; Ramsoomar et al., 2021). DIPT participants and their spouses described three interrelated issues—finances, infidelity, and alcohol use—as the primary drivers of IPV, consistent with prior work highlighting these risk factors for partner conflict (Breur et al., 2019; Miller, Ddaaki, et al., 2021;

Miller, Ziegel, et al., 2021). Study participants randomized to all four study arms and their spouses described how participation in the study, which included financial incentives for some and brief counseling for all participants, led to a reduction in alcohol use, and how this improved relationship dynamics in their household. Typically, this was framed as reduced alcohol use leading directly to reduced conflict while also resulting in additional financial resources which indirectly reduced conflict, underscoring the central role alcohol use plays in experiences of IPV in this context and the need to adequately address alcohol use explicitly when developing violence prevention programming. Narratives from this study describing participant experiences receiving incentives and the impact of these incentives on alcohol use and household finances have been described elsewhere (Appa et al., 2023). In that analysis, which is focused on the individuals rather than the couples, participants described how the incentives were motivating for behavior change because the prize money was large enough to facilitate essential purchases for their family and household (such as a livestock, food, and tools for farming), which subsequently improved the quality of their lives and addressed a major source of marital conflict (resource scarcity) (Appa et al., 2023). Taken together, findings from both analyses suggest that while participants across arms (including those without incentives) indicated that they reduced their alcohol use because of participation in DIPT, the relationships of individuals receiving incentives may have benefitted from the intervention due to decreased alcohol use, decreased household money spent on alcohol, and increased money from the incentives.

Despite wide recognition of the outsized role that alcohol use plays in leading to and exacerbating relationship conflict and IPV, few evidence-based interventions exist to address these issues in tandem, globally (Wilson et al., 2014), and specifically in sub-Saharan Africa (Murray et al., 2020). Furthermore, resources to support victims of IPV in this setting are limited. Therefore, it is promising that interventions that target upstream risk factors of IPV (such as alcohol use which is known to increase both frequency and severity of IPV (Cafferky et al., 2018; Leonard & Quigley, 2017)) may positively impact relationship dynamics and IPV. However, evaluation of interventions aimed at addressing IPV perpetration suggests the relationship between alcohol use and IPV is complex with a confluence of additional individual, contextual, and cultural risk factors at play (Siria et al., 2022). Therefore, addressing this issue entirely will likely require a comprehensive response tailored to the prevailing risk factors in a specific context.

While many participants noted positive changes in their relationship due to the intervention, the overarching socioeconomic impact of the pandemic seemed to exacerbate marital conflict in many partnerships, and it was difficult to explore the true impact of the intervention in the context of the pandemic. Many participants described how reduced mobility due to the lockdown and being confined at home with one's partner increased quarreling. In addition, participants reported that the financial strain of the pandemic led to increased conflict. This is consistent with findings from a rapid review of prevalence and correlates of IPV during the pandemic, which found that pre-pandemic correlates of IPV such as isolation and unemployment were

exacerbated during the pandemic, while protective factors against IPV such as social support and community cohesion were hindered (McNeil et al., 2022). A growing body of global evidence suggests that IPV increased in frequency and severity during the COVID-19 pandemic (Aguero, 2021; Kgaugelo, 2020; UN Women, 2020) with many countries being ill-prepared to handle increased demand or implement remote services in the wake of the lockdown.

Uganda's COVID-19 Essential Services Committee (in alignment with recommendations from the African Union) established guidelines for creating and integrating gender-responsive programming into COVID-19 national responses, which included the development of standard operating procedures to ensure continuity of care and services during the pandemic for gender-based violence, sexual, and reproductive health and HIV (UN Women, 2020). However, steps to address underlying drivers of violence exacerbated by the pandemic, such as financial insecurity, are still needed. This could be addressed through an improved social protection response. The Ugandan government did implement policy to address food insecurity in the form of food parcel provision, but these parcels were reported to be small and of low quality (Devereux, 2021). No monetary transfer programs were enacted in Uganda. Many African nations (e.g., South Africa, Ethiopia, Botswana, Malawi) implemented "shock-response" social programs in the wake of the COVID-19 pandemic to both increase benefits to existing beneficiaries, and expand programs to reach new beneficiaries, including cash transfer programs, tax relief/exemption, unemployment benefits, and utility subsidies (Devereux, 2021). While these types of programs are imperfect and may not reach all individuals (e.g., informal sector employees would not benefit from unemployment benefit programs), they can provide direct relief to large portions of the population, addressing a major underlying cause of conflict and violence. Developing a protocol to adopt one or more of these social safety net programs for rollout in future pandemics may mitigate the financial toll of national lockdowns on individuals and households.

The disparities in report of IPV within dyads in our study is consistent with a large body of literature where self-report of IPV victimization is much higher in a given population than self-report of perpetration (Archer, 2016; Halim et al., 2018; Marshall et al., 2011; Schafer et al., 2016). This also holds true for our baseline DIPT data (available among participants but not their partners) in which 18.9% of women reported victimization while only 3.6% of men reported perpetration (Miller, Fatch, et al., 2022). Those reporting no IPV perpetration at the baseline also had higher social desirability scores, which reinforces prior findings that estimating the true prevalence of IPV, and targeting service delivery needs, is a major challenge (Miller, Shoptaw, et al., 2022). In the absence of objective measures for IPV, we must strive to improve our use and interpretation of self-reported IPV data; this includes improved data collection methods that reduce risk of underreport (e.g., self-administered vs interviewer administered surveys) and continued use of dyad data which captures discrepancy in reporting. Recognition of underreporting also underscores the limitations of disclosure-based IPV screening and referral systems, and highlights the importance of moving towards integration of universal education and counseling for all women in clinical settings (Todahl et al., 2020).

While our findings suggest that participation in interventions aimed at reducing alcohol use may positively impact relationship dynamics via both reduced alcohol use and improved financial situations, a universal screening and education approach (where IPV counseling and services are offered to all female patients, regardless of IPV disclosure) may have several advantages to reducing overall levels of marital conflict and IPV in the community. This approach has the greatest potential reach, allowing providers to educate and counsel persons who have not been exposed to IPV (primary prevention), those who have a history of IPV and are at increased risk (secondary prevention), and those who are currently experiencing IPV (intervention), regardless of whether clients disclose experiencing IPV. Provision of brief education and counseling to all female patients also standardizes inclusion of IPV prevention practices across patients, simplifying the process for providers. An example of such an intervention is the evidence-based CUES (Confidentiality, Universal education and empowerment, Support/warm handoff) intervention, developed by Futures Without Violence, which has shown promise in RCTs in the US (Futures without Violence; Miller et al., 2017; Sullivan, 2019). There is a lack of research on the application of the universal screening and education approach in Uganda or sub-Saharan Africa more broadly, including exploratory research to assess need for cultural adaptation and tailoring. Pre-implementation research is needed with multilevel stakeholders at the provider, facility, community, and governmental levels to identify potential barriers (e.g., training needs) and facilitators of the integration of such services into routine healthcare systems in Uganda. Given the high burden of IPV among women living with HIV, and association between IPV and poor HIV care and treatment outcomes (Biomndo et al., 2021; Hatcher et al., 2015), integration of universal IPV screening into HIV care services could yield a significant public health benefit through support of victims of IPV who are living with HIV. However, it is also important to note that three of the ten couples included in our study (and an unknown proportion of individuals who did not have their partners participate) were serodifferent; in these relationships, if it is the perpetrator who is living with HIV, IPV may be a risk factor for HIV acquisition. Uganda's Ministry of Health (MOH) released technical guidelines promoting use of PrEP among serodifferent couples in 2018 (Uganda MOH, 2018); integration of IPV screening into care services for these individuals may also be particularly impactful.

This qualitative study conducted among HIV/TB coinfected individuals who engage in unhealthy alcohol use and their partners has limitations. As with all qualitative research, data are not designed or intended to be generalizable (for instance to all Ugandan populations and settings), and do not permit estimations of the prevalence of IPV in a population or quantify the magnitude of changes in IPV that may have occurred due to either the covid-19 lockdown or participation in the DIPT study; rather, these findings offer insights into the dynamics of alcohol use and IPV in a rural eastern African setting and may be informative for similar contexts. Furthermore, in the context of the COVID-19 pandemic, it was difficult to disentangle the impact of the intervention on relationship dynamics and conflict from that of the lockdown. However, this study has several methodical strengths. Our use of dyad data provided a rare opportunity to cross-check participant responses with those of

their partner, helping us to examine a major challenge in IPV research: underreporting of violence (especially perpetration) due to social desirability bias (Caetano et al., 2016; Freeman et al., 2015; Sugarman & Hotaling, 2016). In addition, implementation of this study in a population with several overlapping health issues that also place them at increased risk of IPV (HIV, TB, and unhealthy alcohol use by participants and some of their spouses) allowed us to explore how interventions to address adherence and alcohol use might also impact IPV in a highly vulnerable population. Finally, the timing of the study allowed us to collect timely data on an understudied phenomenon: the impact of the COVID-19 pandemic on relationships and conflict.

Conclusion

While some study participants described reduced alcohol use leading to less conflict in their intimate partnership, these results could not be isolated from the overarching context of the pandemic. Participants described increased economic insecurity due to the COVID-19 pandemic and lockdown which led to marital conflict and violence between partners. This suggests the need to ensure continuity of access to IPV services in future pandemics as well as the need for the development of policies to address root causes of IPV, such as financial strain and alcohol use that are exacerbated by national lockdowns.

Contributorship

CC, JH, and GC conceptualized the study design and procured funding to support the study. GC and CC are co-principal investigators, and they led the study conception and defined its aims. NE, KM, RF, BB, AK, MG, MK, and WM contributed to intervention development, study implementation, and data collection. APM led qualitative analysis of coded data and manuscript development. CC, GC, JH, MM, HT, and AA significantly contributed to manuscript development. All authors read and revised the manuscript for critical comments. All authors approved the final draft.

Declaration of Conflicting Interests

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Data Sharing Statement

As raw qualitative transcript data contain complete narratives that could potentially identify participants, data would need to be curated for specific research purposes; authors will be happy to share data upon request.

Ethics Approval Statement

We confirm that all methods were performed in accordance with the relevant guidelines and regulations. This study was approved by the Institutional Review Board at University of California, San Francisco, the Mbarara University of Science and Technology Research Ethics Committee, the Makerere University School of Medicine Research Ethics Committee, and the Ugandan National Council for Science and Technology. Written informed consent was obtained from participants in their preferred language prior to enrollment.

ORCID iD

Amanda P. Miller https://orcid.org/0000-0002-2252-6973

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Author Biographies

Amanda Miller, PhD, MS, is a postdoctoral fellow in the Department of Epidemiology and Biostatistics at the San Diego State University School of Public Health. Dr. Miller has been conducting research to inform violence prevention programming in sub-Saharan Africa for over a decade. Her research primarily focuses on the syndemic of alcohol use, intimate partner violence, and HIV among women in low resource, high burden settings.

Ayesha Appa is an Assistant Professor in the Division of HIV, ID, and Global Medicine at the UCSF, where she completed both Infectious Diseases and Addiction Medicine fellowships. Dr. Appa's research is focused on implementation of models that provide simultaneous treatment of substance use disorders and HIV or other serious infections.

Winnie R. Muyindike is a consultant physician, a researcher, and the Head of the HIV care clinic at the Mbarara Regional Referral Hospital (MRRH) and Mbarara University of Science and Technology (MUST), Mbarara, Uganda. Dr Muyindike has been conducting research on HIV, antiretroviral therapy, alcohol use, alcohol biomarkers, and tuberculosis for over a decade in collaboration with research teams at the University of San Francisco California (UCSF) Harvard University, and Boston University/Boston Medical Center.

Robin Fatch, MPH, is a data manager and statistician in the Division of HIV, Infectious Diseases & Global Medicine at the University of California San Francisco.

Allen Kekibiina, MPH, is a Project Coordinator at the Mbarara University of Science and Technology Grants Office.

Brian Beesiga, MBChB, is a project coordinator at the Infectious Diseases Research Collaboration in Kampala, Uganda. He has been involved in intersectional research of HIV/TB/alcohol use for about six years and has research interests in the same.

Julian Adong, MBChB, MMed, is a pediatrician and research clinician in the Faculty of Medicine, Mbarara University of Science and Technology, Uganda. Dr. Adong has been conducting research focused on the intersection of HIV and alcohol use for over a decade, and more recently focused on developing mHealth interventions for young people with HIV.

Nneka Emenyonu, DrPH, MPH, is a project director in the HIV, ID, and Global Medicine Division in the Department of Medicine at the University of California San Francisco. Dr. Emenyonu has managed large longitudinal cohort studies that focus on HIV, alcohol use, and TB in Uganda since 2004, including the DIPT study.

Kara Marson, MPH, is a Project Manager in the Division of HIV, Infectious Diseases & Global Medicine at the University of California San Francisco.

Monica Getahun, MPH, is a Research Program Director at the Institute for Global Health Sciences at the UCSF. Her research cuts across the areas of maternal health, person-centered care, HIV/AIDS, and COVID-19, and focuses on leveraging social science approaches to explore the pathways of complex interventions as well as their impact on patients, providers, and the community.

Moses R. Kamya, M.B.Ch.B, PhD, is a Professor of Medicine at Makerere University, Kampala, Uganda and the Executive Director of the Infectious Diseases Research Collaboration in Uganda. He has been involved in HIV care in Uganda for over two decades. His research primarily focuses on HIV care and prevention to inform the national HIV response. Dr. Kamya chairs the Uganda Ministry of Health National AIDS Advisory Committee.

Gabriel Chamie, MD, MPH is a specialist in Infectious Diseases and an Associate Professor of Medicine in Residence in the Division of HIV, Infectious Diseases and Global Medicine at the University of California, San Francisco (UCSF). Dr. Chamie has been conducting HIV and TB clinical and epidemiological research in sub-Saharan Africa since 2008. His research interests include community-based HIV testing, HIV prevention and treatment, TB/HIV co-infection, TB transmission dynamics, and behavioral economic interventions to promote prevention of HIV and TB in East Africa. He is principal investigator of several, ongoing NIH-funded studies.

Carol S. Camlin is a behavioral scientist and social demographer at the UCSF. Her research program crosses the disciplines of behavioral sciences, population studies, and sociology, and has focused on the study of complex and dynamic forms of population mobility in sub-Saharan Africa, and links between gender, mobility, and HIV prevention and care outcomes. She also contributes expertise in applying qualitative and mixed methods approaches and behavioral and social theory to clinical and pragmatic trials and implementation studies.

Judith A. Hahn, PhD, MA is a Professor in Residence at the University of California, San Francisco. She has led and co-led numerous research studies on the impacts of hazardous alcohol use on health outcomes and intervention trials to reduce alcohol use in persons with HIV and TB co-infection in Sub-Saharan Africa.