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Research Paper

Structural interventions and social suffering: Responding to amphetamine-type stimulant use among female entertainment and sex workers in Cambodia

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ABSTRACT

Background: In Cambodia, HIV infection remains high among female entertainment and sex workers (FESW) and the use of amphetamine-type stimulants (ATS) is an independent risk factor for unprotected sex and sexually transmitted infections among this group. For decades public health approaches to HIV prevention in low and middle income countries (LMIC) have attempted to target the macro-power relations that shape risk behaviour with structural interventions. Recent research has highlighted that interventions that combine ATS risk reduction, in the form of financial incentives for abstinence, with existing HIV prevention programmes, may also play an important role. However, whether this approach goes far enough as a response to structural drivers of risk requires further examination.

Methods: Semi-structured in-depth interviews were conducted with 30 FESW (mean age 25 years) from five provinces in Cambodia, as part of formative research for the implementation of the Cambodia Integrated HIV and Drug Prevention (CIPI) trial. The aim was to explore the contexts and drivers of ATS use. Data were analysed using grounded theory.

Results: In addition to increasing occupational functionality, ATS were used to control pervasive feelings of 'sadness' in relation to the lived experience of poverty, family and relationship problems. Feeling sad could be viewed as an expression of social suffering, in response to competing priorities and seemingly inescapable constraints imposed by a lack of options for income generation, gender inequalities and stigma. Participants expressed interest in microenterprise (ME) opportunities, particularly vocational training, that could create new work opportunities beyond sex work and ATS use.

Conclusion: In addition to reducing ATS use, HIV prevention interventions need to target sources of sadness and social suffering as drivers of risk among FESW in this context. The inclusion of ME opportunities in HIV prevention, to alleviate social suffering, warrants further investigation through qualitative and ethnographic research.

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Background

For decades researchers have emphasized that risk behaviour is "intricately woven into the fabric of macro-power relations" (Bourgois, Lettiere, & Quesada, 1997). It is now well recognised that public health approaches to disease prevention need to acknowledge but also look beyond individual-level risk factors to create enabling environments for risk reduction by targeting the social and structural drivers of risk. A substantive literature has highlighted that structural factors including poverty, gender inequality, institutional practices such as the stigmatisation of sex workers, and government policies that criminalise sex work, underscore HIV vulnerability in low and middle income countries (LMIC) (Baral et al., 2012; Cui, Lee, Thirumurthy, Muessig, & Tucker, 2013; Gupta, Parkhurst, Ogden, Aggleton, & Mahal, 2008; Ma, Chan, & Loke, 2017; Page et al., 2013; Scheibe, Drame, & Shannon, 2012; Shannon, Goldenberg, Deering, & Strathdee, 2014, 2015; Syverten et al., 2014), including in Cambodia (Maher et al., 2015; Page et al., 2016). For many women in these settings, poverty and financial insecurity mean that HIV prevention often assumes a lower priority than meeting basic needs. Effective HIV prevention programmes need to integrate structural interventions (Cui et al., 2013; Gupta et al., 2008) with biomedical and behavioural approaches (Coates, Richter, & Caceres, 2008).

However, progress in the use of structural approaches for HIV prevention has been hampered by difficulties researching their effectiveness. Randomised controlled trials that produce gold standard evidence are not necessarily the best way to investigate the impact of complex structural interventions, particularly the role of contextual factors (Gupta et al., 2008). In addition, structural interventions, like micro-enterprise (ME) development or access to stable housing, are often viewed as long-term processes that sit more comfortably in the domain of social and economic development programmes like the UN Millenium Development Goals than in disease prevention. The broader timeframes needed to measure the impact of such interventions have also hindered research and thus the development of an evidence base. However, increasingly, the communities most vulnerable to HIV infection are the poorest (Gupta et al., 2008; Kim, Pronyk, Barnett, & Watts, 2008; Syverten et al., 2014) and HIV interventions for this group cannot be separated from the need to address structural drivers of infection.

Failure to respond to entrenched poverty as a driver of HIV risk, or viewing it as insurmountable or as a backdrop of "routinized misery" (Kleinman et al., 1997), undermines both health and human rights. However, the relationship between poverty and vulnerability to HIV infection is complex and multi-dimensional, intertwined with gender inequalities, disenfranchisement and discrimination, intimate partner violence, age, social marginalisation, educational attainment, and punitive laws and policies in relation to sex work (Kim et al., 2008). In Sub-Saharan Africa, HIV prevalence is correlated with higher levels of inequality rather than wealth, a trend also seen in Latin America and Asia (Gillespie, Kadiyala, & Greener, 2007). A strong case has been made to replace the concept of poverty alleviation as a structural intervention, with economic empowerment interventions for women, incorporating ME opportunities, gender equity and HIV training (Kim et al., 2008; Sherman, German, Cheng, Marks, & Bailey-Kloche, 2006). However, the most effective way to proceed remains far from clear. In order to move the field forward, researchers need fresh lines of inquiry that explore creative approaches.

HIV infection remains high among female entertainment and sex workers (FESW) in Cambodia (National AIDS Authority, 2015; Page et al., 2013). In this context, FESW work in managed brothels with set prices for services, entertainment venues such as karaoke bars or beer gardens where sex is exchanged for cash or goods, or in street locations where clients are met in parks or on the street and utilise local guest houses for sexual transactions with negotiable prices for services (Maher et al., 2011). An extensive literature exploring female sex workers' experiences of structural (Farmer, 1996), symbolic (Bourdieu & Wacquant, 1992) and everyday (Scheper-Hughes, 1992) violence highlights the importance of structural interventions to address food and housing insecurity, lack of access to services, social and gender inequalities, stigma, discrimination, and violence both within and beyond HIV (Gurnani et al., 2011; Khan et al., 2017; Pinton-Perez, Weisner, & Bhuyan, 2018; Shannon et al., 2008). In the context of HIV prevention programmes, structural interventions that target the politico-legal, economic and social determinants of health (Evans, Jana, & Lambert, 2009; Platt et al., 2013) combined with community mobilisation and empowerment of sex workers, including sex worker-led interventions, are needed to create an enabling environment for changes in risk behaviour (Blanchard et al., 2013; Campbell, 2003; Evans et al., 2009; Febres-Cordero et al., 2018; Gurnani et al., 2011; Moore et al., 2014).

In addition, the use of amphetamine-type stimulants (ATS) has been identified as a risk factor for sexual transmission of HIV, with ATS use independently associated with unprotected sex and incident sexually transmitted infections (STI) in this group (Couture et al., 2012, 2011). However, to date, HIV prevention programmes for FESW have not specifically targeted ATS use (Page et al., 2016).

In the absence of evidence-based pharmacotherapy treatment, behavioural interventions represent the standard of care for reducing ATS use. Previous research in high income countries has shown that providing financial incentives and/or vouchers and prizes in exchange for abstinence, when combined with voluntary relapse prevention, an evidence-based cognitive-behavioural approach (Carroll & Rawson, 2005), can be moderately effective in reducing drug use during outpatient or clinical treatment (Lussier, Heil, Mongeon, Badger, & Higgins, 2006; Prendergast, Podus, Finney, Greenwell, & Roll, 2006), including among methamphetamine users (Rawson et al., 2004; Roll, 2007). Using financial incentives in this way draws on the principles of behavioural economics (Volpp, Asch, Galvin, & Loewenstein, 2011) and is often referred to as contingency management (Lussier et al., 2006; Prendergast et al., 2006). Previous research has shown that frequent and immediate, tangible reinforcement of abstinence from ATS use, through cash payments given at the time of each urine screening visit, is most effective (Carrico et al., 2016; Ling, Krishnamurti, Davis, Reback, & Shoptaw, 2013). However questions remain regarding the underlying mechanisms for the efficacy of these approaches and, in particular, the sustainability of reductions in drug use once incentives cease (Carrico et al., 2015). Some evidence suggests gains in drug treatment, such as reductions in drug use or engagement in drug treatment, may diminish within months (Prendergast et al., 2006).

The principles of behavioural economics have been criticised for being logical in theory but less relevant when extrapolated into real-world settings, where a range of factors influence "rational" choices made by individuals, particularly among poorer segments of the community (Volpp et al., 2011). For example, CCT may not necessarily incentivise the right behaviour if it is present rather than future considerations that influence choice, when people are attracted to immediate rather than delayed benefits and deterred by immediate rather than delayed costs (Volpp et al., 2011).

The application of behavioural economics also has a history in the health and development sector (Lagarde, Haines, & Palmer, 2007), including in the context of HIV prevention (Pettifor et al., 2016). Referred to as conditional cash transfers (CCT), payments are provided in exchange for specific changes in health or education-related behaviour. While imposing conditions on cash transfers has been criticised for inhibiting women's options and decision-making, and for the "feminization of responsibility and obligation" (Chant, 2008), HIV prevention studies have shown CCT can lead to increases in school attendance by young women (Pettifor et al., 2016), improved uptake of HIV testing (Nglazi et al., 2012; Thornton, 2008), better retention in treatment, and viral suppression (El-Sadr et al., 2017; Yotebieng et al., 2016). In LMIC, research suggests that one way CCT achieves these outcomes is by

mitigating the effects of poverty as a key structural barrier to HIV prevention, by effectively increasing income (Carrico et al., 2016).

The efficacy of CCT interventions in reducing drug use, including ATS use, among key populations in LMIC like Cambodia is unknown. ATS consumption induces feelings of euphoria, increases in heart rate and blood pressure, insomnia and appetite suppression and in high doses can lead to anxiety, paranoia and psychosis (Barr et al., 2006). Among sex workers, ATS use is believed to enhance performance through its positive impact on mood and by reducing inhibitions, facilitating a sense of power and agency (Maher et al., 2011; Lasco, 2014). In Cambodia, stimulants such as methamphetamines are used by FESW primarily for occupational reasons, as "power drugs" that give women the "strength" to forego sleep and food, work longer hours and see more clients (Dixon et al., 2015; Maher et al., 2011). Limited access to education, has meant FESW' options for income generation are restricted (The United Nations Children's Fund, 2012). Entrenched poverty raises the survival stakes and acts as a key structural driver of drug use and HIV risk among this group. In this context, it could be argued that CCT can only function to alleviate poverty if it goes beyond compensating FESW for lost income arising from abstinence from ATS use. While CCT may be an effective intervention for reducing ATS use and HIV risk in this setting, just because it involves financial incentives to poor women does not necessarily mean it goes far enough as a structural intervention.

Previous research focused on CCT in resource-limited settings has shown that in some cases, fulfilling the conditions for cash transfers can have unintended negative consequences, including exacerbating social exclusion, placing excessive burdens on women in terms of time, cost and travel options often with children in tow, and women doing additional forms of unpaid labour (Cookson, 2016). In addition, conditional cash payments have been criticised as being more acceptable to policymakers, seeking to control the behaviour of communities and to curb "undesirable spending", than to communities themselves (Schubert & Slater, 2006). In order to avoid potential negative impacts of CCT on FESW, community-led structural interventions such as community and FESW peer network mobilisation have been endorsed as a key strategy for empowerment that enhances HIV prevention (Blanchard et al., 2013; Evans et al., 2009; Jana, Basu, Rotheram-Borus, & Newman, 2004; O'Neil et al., 2004).

Investigation of the use of CCT to reduce drug use in LMIC has only recently begun. The Cambodia Integrated HIV and Drug Prevention (CIPI) trial was designed to determine the efficacy of augmenting an existing HIV prevention programme with an ATS risk reduction intervention in reducing the number of sex partners and ATS use among FESW (Carrico et al., 2016; Page et al., 2016). A 12 week CCT intervention was followed by four weeks of a group-based cognitive-behavioural aftercare (AC) programme (CCT + AC). The AC programme described elsewhere (Carrico et al., 2016) involved four weekly sessions designed to allow participants to discuss their experiences related to ATS use and to learn skills to manage triggers for ATS use, as part of relapse prevention. In addition, participants who were abstinent following the CCT + AC intervention were offered a ME opportunity consisting of three days of financial literacy training and the option of applying for a small business loan. The sequentially-delivered ME opportunity was incorporated into the trial to assess FESW' potential engagement with this kind of structural intervention (Page et al., 2016).

Results of the CIPI trial revealed significant reductions in ATS use and the number of sex partners immediately following the CCT + AC intervention (Page et al., 2017). In addition, findings showed reductions in clinically significant psychological distress, housing instability and food insecurity 12 months following the sequentially-delivered ME opportunity, suggesting that this approach holds promise as a potential structural intervention for FESW in resource-limited settings (Carrico et al., 2017). This article seeks to contribute to debate regarding scale-up of interventions such as these, to bring about sustainable change, and how best to respond to structural constraints that shape HIV risk behaviour in the long term. Formative qualitative data collected as part of the CIPI trial are presented to broaden conceptions of the challenges posed by structural constraints and their negative impact on the health and well being of FESW. The extent to which HIV prevention interventions can impact on structural constraints is also discussed.

Methods

In 2013, in-depth interviews with FESW from five provinces in Cambodia were conducted as part of formative research for the implementation of the CIPI trial (Carrico et al., 2016; Dixon et al., 2016; Page et al., 2016). As has been reported elsewhere (Dixon et al., 2016), FESW involvement in the development of the CIPI intervention, particularly its acceptability and feasibility, was integral to the CIPI trial. Analyses of this data resulted in key changes to the study protocol in response to participants' perspectives.

Participants (n = 30) were recruited on a convenience basis through outreach to brothels, entertainment venues, streets and parks, by staff from the SMARTGirl (SG) programme, the most broadly disseminated HIV prevention programme for FESW in Cambodia, operated by our Cambodian partner FHI360. SG is implemented by non-government organisations and funded by the United States Agency for International Development (FHI 360, 2011). SG uses a "club" recruitment system to offer FESW health information and referrals for HIV testing, STI and reproductive health services, as well as access to SG clubs which operate as drop-in centres. Consistent with the CIPI trial, eligibility criteria included that participants were aged at least 18 years, biologically female, able to understand spoken Khmer, used SG services, and reported ATS use and at least two different sexual partners and/or transactional sex in the last month.

In each province six women who met the eligibility criteria were directly and consecutively approached by SG staff. SG staff enjoy positive relationships with SG members and did not experience problems accessing or recruiting women. Once participants provided verbal consent, interviews were conducted in Khmer by trained interviewers who were members of the research team. All interviews were observed by the senior author (LM). Interviews took place in SG programme offices and took between 30 min and two hours to complete. Participants were remunerated with a USD$3 phone card and transportation assistance.

Interview questions aimed to explore the contexts and drivers of ATS among this group as well as identify potential barriers and facilitators of implementing the CIPI trial intervention. For example, participants were asked about their drug use patterns, attitudes towards the concept of CCT, the AC programme and ME opportunities, the likelihood of reducing ATS use, the amount of cash payments and attitudes towards urine toxicology screening.

Interviews were digitally recorded and transcribed verbatim in Khmer. All participants were assigned a pseudonym so that excerpts from the same participant could be easily identified. Transcripts were checked for accuracy against the original recordings before being translated into English by a certified translator. Data were analysed using a grounded theory approach (Strauss & Corbin, 1990). Emerging themes were identified and refined to develop an initial coding system. Data were formally coded concurrently and iteratively, using both open and axial coding to clarify and consolidate themes (Ezzy, 2002).

The approach adopted for the analysis was consistent with the original aims of the project which were to inform the content, implementation, and evaluation of the proposed intervention by assessing acceptability and feasibility among ATS-using FESW, focusing on barriers and facilitators to engagement in CCT and perceptions of potential aftercare components. While primary analyses of the data followed the general tenets and principles of grounded theory (Strauss & Corbin, 1990), the secondary analysis presented here was conducted four years following the data collection and was informed by Kleinman's work on illness narratives as cultural expressions of distress (Kleinman, 1988)

and the concept of social suffering (Kleinman et al., 1997) and its impact on an individual's sense of self worth (Bourdieu & Wacquant, 1992). These works provided important conceptual and theoretical frameworks for interpreting data in relation to participants' drug use, experiences of stigma and the impact of social suffering.

Ethical approval for the study was provided by the Cambodian National Ethics Committee and the University of California San Francisco Institutional Review Board (USF IRB). The University of New Mexico and University of New South Wales had a reliance agreement to accept the UCSF IRB determinations.

Results

The mean age of participants (n = 30) was 25 years, just over one quarter (26.7%) were single and two-thirds (63.4%) had one or more children. The majority of women (86.6%) had completed five years or less years of schooling and most (66.7%) lived in private rental accommodation at the time of interview. Almost half of participants (46.7%) worked in karaoke bars. Other primary work venues included brothels (16.7%), parks and streets (23.3%) and venues such as beer gardens (13.3%).

ATS use and "feeling sad"

ATS use has been identified as an income generation strategy for Cambodian FESW, adopted primarily to increase functionality and maximise income for women (Dixon et al., 2015; Maher et al., 2011). However interview data also indicated that participants frequently reported using ATS to manage feelings of "sadness".

> The most important reason [for using ATS] is that we feel sad (Phavy, 20 year-old woman).
> As I am frequently sad, I want to smoke it for fun (Chorvy, 22 year-old woman).

ATS were used in response to sadness, to make participants "feel happy" and "not think about anything".

> Sometimes, I am so sad, I could make myself feel rather happy. [With ATS] We don't think or care much about sadness (Leahkhena, 29 year-old woman).
> After I use it, I feel happy and don't care about anything at all. Only think about having fun (Sonary, 20 year-old woman).

Sadness as a driver of ATS use was often related to the lived experience of poverty, or relationship breakdown.

> Sometimes, when I look at the things in the house, have difficult livelihood, encounter difficulties, think about this and that, and when I think of these, I also want to try it [ATS]. After I used it, that's true; all complications were all gone (Srey Neang, 22 year-old woman).
> [Using ATS] At that time I was sad. We lived together like husband and wife but could not get along with each other. Then he had a new girl (Morokoth, 18 year-old woman).

Participants wanted to "forget" sadness arising from problems with parents, families and partners.

> The other reason is that it [ATS use] makes us forget all sadness. [W]hen we use it we feel that we don't have any problem. [I]t seems that it makes us forget everything, not thinking about parents (Sophary, 36 year-old woman).
> Sometimes we think about our family and then feel sad, sometimes about sweetheart. We have many crises, sometimes we use it, we can forget some (Phavy, 20 year-old woman).

In this way, ATS use was a personal resource for managing well-being, a deliberate strategy of self-medication, offering a temporary cure for sadness.

> Just like when I felt sad, I used it, but after using it, it's over. No longer felt sad (Usaphea, 32 year-old woman).

The use of ATS to alleviate sadness often occurred in social contexts, as a resource for resilience and social connectedness. Some participants stressed the importance of using ATS with friends who were also FESW, as an outlet for "having fun" when "doing this job" and managing problems at home or with their families.

> The women doing this job only think about having fun. They have fun for anything. Sometimes two of them just laugh. They need to have fun only, whatever makes them happy. Because the environment at our homes are messy, so when they smoke it, they want to feel happy that day and on any day (Ratana, 20 year-old woman).
> Women in this kind of job like me don't like to be quiet but like to be happy. Don't like to be sad. Don't like it (Haratey, 24 year-old woman).

Some participants anticipated that under these circumstances, maintaining abstinence could be difficult. Rejecting the company of drug-using friends could not only result in emotional backlash but also jeopardise access to important sources of support for FESW.

> When they call us [to use ATS], if we don't come, our friends get angry. When getting angry, they may stop talking with us (Chamnan, 27 year-old woman).
> Because my friends also often asked me, "Now you are so strange. You don't go wherever we call you to go. Just stay at home. [W]hat a behaviour." They say I am arrogant (Haratey, 24 year-old woman).

In summary, ATS use extended beyond occupational settings and was embedded in participants' work and social contexts. ATS use was used as a resource to control feelings of sadness and troubling memories in relation to poverty, family and relationship problems. Previous research has reported high levels of psychological distress and mental health problems among FESW in Cambodia (Brody, Chhoun, Pal, & Yi, 2016) and internationally (MacLean et al., 2018; Puri, Shannon, Nguyen, & Goldenberg, 2017; Surratt, Kurtz, Weaver, & Inciardi, 2008; Yuen et al., 2016), that has been linked to exposure to violence (Dunkle & Decker, 2012; Katsulis, Lopez, Durfee, & Robillard, 2010; Roberts et al., 2018), stigma (Benoit, Jansson, Smith, & Flagg, 2017), drug use (Stiffman, Dore, Felton, & Cunningham, 1992; Wechsberg et al., 2003), the criminalisation of sex work (Benoit et al., 2017; Schneiders & Weissman, 2016) and difficulties accessing health services (Benoit et al., 2017; Ma et al., 2017). Participants' accounts suggested sadness was a pervasive issue in their everyday lives and an important factor affecting HIV risk and their ability to maintain abstinence. Sadness was also an expression of social suffering.

Feeling sad: an expression of social suffering

Mental health has been described as a moral barometer of social experience (Kleinman, 1988). Participants' references to feeling sad can be viewed as expressions of social suffering, arising because of the way political, economic and institutional power shapes individual and community responses to social problems (Farmer, 1997). Expressions of social suffering are evidence of "the damage done to a person's sense of dignity and self-worth when the field of possibilities before them is heavily circumscribed by structural conditions that offer no means of respite or escape" (Bourdieu & Wacquant, 1992, p102).

In the current study, ATS were used to forget sadness and social suffering arising in response to three interacting structural barriers: poverty, gender inequality and stigma associated with ATS use. Participants were trapped between competing priorities imposed by these structural barriers that shaped drug use patterns and mental well-being.

At the heart of participants' ATS use was the financial imperative of generating income through sex work, in a context of poverty and a lack

of alternative options. Unrelenting economic insecurity was apparent in frequent references to the salience of income generation. As one participant stated, “every day” she struggled to earn a living.

> If you want to help them [FESW who use ATS], you’ve got to have money to help them. Because every day, both they and I try to earn our living for it (Haratey, 24 year-old woman).

ATS use in the context of sex work was considered an economic necessity.

> [You use it almost every day?] Yes, because I work every day (Channa, 20 year-old woman).
> When it’s time to work, we use (Daraneat, 30 year-old woman).
> I did not want to use it myself. But because I go to work (Haratey, 24 year-old woman).

The majority of participants had low levels of education and sex work was viewed as the most lucrative work option. In 2015, average monthly household income in Cambodia was $91 USD (CEIC, 2015). The garment and footwear industry in Cambodia is often a major sector of employment for women with limited formal education, particularly those who are young and single. It has been estimated that 43% of workers have not completed primary school and most have moved from rural areas to Phnom Penh (Asian Development Bank, 2013). However, wages in this industry tend to be very low. In 2009, 84% of women employed in the textile, garment and footwear industry earned less than the minimum wage ($50 USD per month). The minimum wage per month has since been raised to $61 USD, although working conditions remain poor (International Labour Office, 2012). Women are over-represented in vulnerable, less secure types of work like this but men consistently earn higher wages than women across broad categories of employment.

When asked if they would be able to reduce or stop using ATS, many participants indicated that reductions in ATS use would be contingent on their ability to cover everyday expenses.

> If they take me now [into the trial], and I can depend on [the incentives], I have enough to eat, I can feed my children adequately and give to myself adequately, so I can stop (Chorphum, 30 year-old woman).

Participants were under immediate pressure to meet the basic needs of their families. At the very least, this meant covering rent, child care and food costs.

> If we did not make money, we had no money to pay for house rent and the cost of hiring the person to look after my child for ten thousand [Riel] for a day and a night (Chakriya, 25 year-old woman).

The concept of family included extended family, particularly parents and siblings. Paying for a family member’s health care was another financial responsibility often reported by participants.

> It is because of poor livelihood. We give money to elderly parents in hometown as they may get sick. [I] face difficulties every day. I don’t want to do that [use ATS] but the matters of livelihood and family as well as parents are important (Haratey, 24 year-old woman).

In Cambodia, access to affordable health care is acknowledged to be one of the primary factors affecting the health of the general population, particularly in rural areas. Individuals often make considerable “out-of pocket” payments to private practitioners when someone in the family is sick (Annear et al., 2015).

Many participants referred to filial piety, or a deep sense of obligation in relation to looking after their parents (Boman & Edwards, 1984; Hoang & Erikson, 1985; Kulig, 1994; Lester, 1973). The family, including extended family, is one of the most important social units in Cambodia, characterised by the interdependence of its members and expectations that children honour parental authority and show respect in myriad ways, particularly as parents age. The provision of financial support for parents and grandparents is viewed as an obligation and a demonstration of respect, duty and love.

Difficulties harnessing resources to provide for the family’s basic needs, but also for educational opportunities and future prosperity, could exacerbate sadness and social suffering.

> When I was so sad, when I could not think of anything, that my family hardly earned money and my siblings also lacked money for their studies. My sibling was sick; my mother was also sick, making it difficult for us to pay the house rent (Viriya, 23 year-old woman).

Social suffering appeared to reflect diminishing hope for the future, stemming from a lack of options for tackling insurmountable barriers to change. The construct of hope, defined as positive expectation of the future, has been referred to as a risk regulator, linked to the capacity of individuals to change their behaviour (Bernays, Rhodes, & Barnett, 2007). In this way, the structural environment could shape FESW’ resilience as well as their investment in reducing risk behaviour.

Changes in participants’ personal circumstances also influenced the financial demands placed on them in relation to income generation and, by necessity, their ATS use. Following marital separation, some participants with children described initiating ATS use in order to maintain their livelihoods as sole income earners.

> The reason is that I first separated from my husband, and I don’t have money to support my children, so I’ve decided to do so because I don’t have energy to work at night, then I have to use it [ATS] (Channa, 20 year-old woman).
> Since I was separated from my husband, I started using it. I should not have used it, but I had to work at karaoke. And I could not stand feeling sleepy, then my friends said that if I used it, I could go again. [F]or me, I did use it but my problem is to raise my children and to have a house for my children to live (Sohpa, 32 year-old woman).

Some participants reported that they intended to reduce ATS use during pregnancy and soon after childbirth, because of health messages regarding “health risks” to the baby.

> When I began to have a baby I started to know about the matter [of health risk] related to my baby. When I went to hospital, others often told me too and then I started to be aware of it… I have now reduced it [ATS use]. I want to do so because I think about my baby’s future (Haratey, 24 year-old woman).

However, adhering to this advice may not be an option for women responsible for generating income for their family.

> I recently gave birth to a baby for less than half a month. I went to work at karaoke even shortly after I gave birth to my baby; and then that night the guests brought the item [ATS] (Chakriya, 25 year-old woman).

In this setting, the immediate financial benefits of ATS use far outweighed perceived risks (Dixon et al., 2015). ATS use as a so-called risk behaviour and even HIV infection could be viewed as the consequence, direct or indirect, of human agency (Farmer, 1997). Given the centrality of survival, abstinence from ATS could be seen as a risk-avoidance strategy many FESW simply could not afford.

> I come to realize that [sex] workers must dare to do anything. If we don’t, we won’t get money (Srey Neang, 27 year-old woman).

Data from some participants suggested gender inequality was another structural factor tied to sadness and social suffering that influenced participants’ drug use patterns and capacity to maintain abstinence.

> For those who don’t have partners, they can do it [stop using ATS] because no one can control them (Channa, 20 year-old woman).

Findings suggested that the control male partners exerted over participants could present challenges in terms of negotiations around drug use and potentially, sexual practices. Despite deeply embedded cultural expectations related to filial piety, according to one participant, these could be overridden by the power of gender dynamics and deference to male authority.

> That person treat their man more important than their parents (Phany, 19 year-old woman).

When male partners also used ATS, drug use could lead to conflict and violence within relationships.

> I lived with my lover and I became addicted; no money earned was left for me as he treated me badly. He threatened me; whenever I had money he asked me to buy it [ATS] for smoke; in fact I did not smoke it so much, but my lover…[I]f I did not give him, he beat me and then I just let him go. [N]o problem when he did not smoke it, but after using it he insulted me and even wanted to kill me (Chakriya, 25 year-old woman).

Despite the economic necessity of using ATS as part of sex work, drug use by women was stigmatised. According to participants, drug use was damaging and a threat to their futures.

> It is not good for women to use it [ATS]. It would ruin our health and future (Sophary, 36 year-old woman).
> The problem, like, losing our future when we use drugs (Chamnan, 27 year-old woman).

Concerns about the impact of drug-related stigma extended beyond individuals to families. One participant's account revealed the influence of filial piety on notions of stigmatised behaviour and perceptions of what reflected well on the family. The importance of avoiding behaviour that "would be looked down on" highlighted the centrality of considering the family's social position in judgements made about appropriate behaviour for women, relative to Khmer gender ideals of subservience to male partners and female chastity (Derks, 2008; Ledgerwood, 1996). This could also represent an attempt to make a claim of "respectability" (Rivers-Moore, 2010) by drawing on cultural notions of obligations in order to deflect blame and stigma associated with ATS use as well as with sex work.

> We must have self-esteem; we have to do valuable things and we must not do anything that would be looked down on and considered as rubbish by other people. So we have to encourage ourselves; we have to be happy and struggle. We work for our parents and siblings. [S]o we could not let ourselves to fall into the mud. When one of our legs falls into the mud, we have to lift it up and clean it up to get rid of mud on our body (Viriya, 23 year-old woman).

This participant hid her drug use from her parents because of shame associated with "letting her parents down".

> I have my parents waiting at home. I would not let them down either. As I did use it [ATS] but would not let them [become] aware of this. I could not endure my mother crying because of me (Viriya, 23 year-old woman).

In this way filial piety and in particular, Buddhist notions of a "good daughter" who provides for the family (Muecke, 1992), may also help women deflect stigma and shame associated with ATS use. While ATS use appeared to be accepted within peer networks as an outlet for "having fun" and as a shared source of resilience, in broader family and friendship networks, outside of sex work, the stigma of a drug use identity needed to be managed (Orchard, Farr, Macphail, Wender, & Young, 2013; Robillard, 2010).

Seemingly inescapable competing pressures, imposed by stigma in relation to ATS use and economic imperatives, exacerbated social suffering.

> Now we smoke it, they say we are not good. They all criticize us. It's just that our family livelihood is poor, so what can we do? If we don't work hard and don't follow others, we won't have money to support our family (Srey Neang, 27 year-old woman).

These expressions of social suffering may also be seen as an attempt to manage stigmatised identities associated with sex work (Orchard et al., 2013; Robillard, 2010).

In summary, the data revealed that 'feeling sad' could be an expression of social suffering among FESW. Participants accounts revealed that ATS were used to control psychological distress arising from relationship breakdown and gender inequalities, a sense of lost hope and seemingly inescapable structural constraints on the extended family's survival and prosperity. In a context where human rights are suboptimal and ATS use may also be linked to the mental health impacts of exposure to violence, lack of social support, and experiences of sex work and drug use-related stigma (Yuen et al., 2016), the interaction between poverty, stigma and social factors such as filial piety, exacerbated social suffering.

Microenterprise opportunities to target social suffering

There is increasing research interest in ME, also referred to as microfinance or microcredit programmes, as structural interventions to prevent HIV (Cui et al., 2013; Dworkin & Blankenship, 2009; Kim et al., 2008). ME opportunities aim to increase capacity for small business development in order to broaden options for income generation. ME typically involves access to small loans, financial literacy training, vocational training and the development of sellable products and/or services.

Research investigating its potential to prevent HIV has had mixed results (Pronyk et al., 2006), particularly among adolescent girls (Kim et al., 2008). However, ME combined with other interventions including gender equity and HIV prevention training, has been shown to reduce HIV risk behaviours in female sex workers. Findings from three studies have reported successful outcomes including reductions in the number of paid sexual partners and income from sex work, increased condom use, higher incomes, the establishment of operational businesses and exiting from sex work (Odek et al., 2009; Sherman et al., 2006, 2010).

The CIPI trial offered participants a ME opportunity, involving three days of financial literacy training and the option to apply for a small business loan (Page et al., 2016). Interview data highlighted that some participants expressed interest in ME opportunities, provided they also received financial support to stop using ATS.

> And when they give us money [financial incentives], we don't use the money to smoke drugs. I think that I use the money to create a business. So if I think like this and I will quit all drugs (Phany, 19 year-old woman).

As well as learning to speak English, participants wanted to develop vocational skills in dressmaking, hairdressing or becoming a manicurist.

> Hairdressing skill or else just learn English in addition or we learn to make dress (Phavy, 20 year-old woman).
> I want the job such as manicurist, makeup or part-time work (Sophary, 36 year-old woman).

Data suggested that many FESW did not imagine maintaining abstinence from ATS use while continuing to do sex work. Only by cessation of ATS use could they see themselves starting "a new life".

> The reason why I think it [financial incentives] is good is that they provide me with this amount of money to conduct any business and stop using drugs and stop doing that job [sex work]. I have the ability to start operating that business to build a new life, I would do

it (Sohpa, 32 year-old woman).

With access to 'capital' for starting a business, some women envisaged returning to their home towns to work and being close to their parents, once they had stopped using ATS.

> I think that if I have capital I will go to do business in my hometown. And we stop living here as living with my parents makes me feel warm and we can avoid meeting friends and avoid using drugs (Manavy, 25 year-old woman).

These data suggested that a structural intervention like a ME opportunity represents an acceptable and potentially effective intervention for reducing ATS use by FESW as well as social suffering. For some participants, access to vocational training and small business loans was associated with cessation of drug use and, potentially, an exit from sex work, suggesting this ME option may be more relevant if sequentially delivered, following CCT. However further qualitative research involving FESW in its design is needed to identify the most promising forms of ME, their potential financial benefits relative to sex work, factors affecting FESW' decisions to exit sex work, and the potential for ME opportunities to address the concerns of FESW that contribute to their social suffering.

Conclusion

ATS use by FESW in Cambodia is primarily driven by occupational functionality in the context of sex work (Dixon et al., 2015). However the qualitative data presented here indicate that forgetting pervasive feelings of sadness and social suffering is also a driver of ATS use among this group, presenting a concomitant increased risk of HIV transmission.

Narrative themes tied social suffering to the combined effects of lack of options for income generation, gender inequality and stigma associated with ATS use. Health messages given to FESW about the need to reduce ATS use during pregnancy and while breastfeeding could exacerbate social suffering if FESW' lack of material resources and alternatives were not acknowledged or addressed. These results raise questions about the potential impact of the CCT + AC interventions that prioritise HIV risk reduction on social suffering.

Social suffering for FESW in Cambodia was concentrated around a lack of economic options, constraints on prosperity and diminished hope for the future. HIV prevention has the potential to alleviate social suffering when it creates the structural conditions to secure hope and enable risk reduction (Bernays et al., 2007), and is strengthened by the empowerment of FESW peer networks through community mobilisation interventions (Blanchard et al., 2013; Evans et al., 2009). Accounts of social suffering reveal "what really matters" to affected communities (Kleinman, 2006), elucidating both the sources of their despair and the drivers of hope. HIV prevention interventions that can respond to social suffering as well as HIV risk will be more acceptable and sustainable in the longer term.

The CIPI trial was the first study to show that CCT was effective in reducing ATS use and HIV risk in a resource-limited setting where poverty is a key driver of risk among FESW (Page et al., 2018). However, the data presented here support the need for further research to better understand the potential role of CCT as a structural intervention and in alleviating social suffering. In particular, the effectiveness of ME in broadening FESW' options for income generation is an important line of inquiry for future research. Dominant discourses about survival sex work may influence participants' willingness to disclose the material benefits of sex work beyond survival (Rivers-Moore, 2010). Involvement of FESW in the design and implementation of research, as well as interventions, is critical (Blanchard et al., 2013; Moore et al., 2014), to examine the ethics of ME, especially where loans are conditional on abstinence from drug use and/or are predicated on assumptions that women wish to or should exit sex work. Historically, forced "rescue and rehabilitation" programmes targeting FESW have resulted in documented harms to FESW (Magar, 2012), the group these programmes are ostensibly designed to protect. Understanding the mechanisms underlying the success of ME will be critical for informing future scaling-up of this approach. How interventions that target gender inequalities, intimate partner violence and the stigma associated with ATS use could be incorporated, also requires examination.

The link between social suffering and HIV risk for FESW in Cambodia also requires further investigation. Our findings point to an emerging conceptual model of the dimensions of social suffering that drive ATS use. In-depth exploration of FESW' experiences of 'sadness' and social suffering was beyond the scope of the current study but would make a valuable contribution to future discussions regarding HIV prevention. Ethnographic and qualitative research would assist in clarifying the primary sources of social suffering for FESW and provide a useful guide for determining critical features of structural interventions from the perspective of this affected community (Biradavolu, Burris, George, Jena, & Blankenship, 2009; Blankenship, Bray, & Merson, 2000; Campbell, 2003; Cornish & Gosh, 2007).

Findings from the present study also highlight plausible pathways whereby poverty, family relationships and other social stressors may act as socially derived experiences of negative affect that may increase ATS use among Cambodian FESW. Consistent with negative reinforcement models of addiction (Baker, Piper, McCarthy, Majeskie, & Fiore, 2004), negative affective states (eg. depression or shame) serve as potent internal triggers for the use of ATS but paradoxically may lead to increased negative affect during stimulant withdrawal. Although ATS use represents an efficient short-term method of escaping or avoiding social suffering, it is likely that ATS use further exacerbates the negative affect women experience due to the biological effects of withdrawal and potentially, the ongoing social stigma related to being a FESW who uses ATS. Further longitudinal, mixed methods research is needed to examine the potential bidirectional pathways linking social suffering, the experience of negative affect, and ATS use in Cambodian FESW.

Statistical models serve us well in highlighting relevant risk factors implicated in disease transmission. Clinical trials of biomedical and behavioural interventions can assess their impact. However, in the local worlds of affected communities, risk factors are not always discrete, disconnected units that can be targeted in isolation. The success of public health interventions to reduce HIV is also dependent on their acceptability within affected communities and their capacity to bring about tangible, sustainable benefits. Expressions of social suffering remind us of the importance of keeping the lived experience of inequality and constraint clearly visible in debates about the design of HIV prevention programmes. Reducing the burden of HIV among female sex workers in LMIC will require interventions that address social suffering, structural vulnerabilities and the risk behaviours in which they are embodied.

Conflict of interest

There are no conflicts of interest to declare.

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