Published in final edited form as:
Int J Drug Policy. 2012 November ; 23(6): 498–504. doi:10.1016/j.drugpo.2012.03.005.

Alcohol Consumption Patterns and Sexual Risk Behavior among Female Sex Workers in two South Indian Communities

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Abstract

Background—HIV transmission in India is primarily heterosexual and there is a concentrated HIV epidemic among female sex workers (FSWs). Earlier reports demonstrate that many FSWs consume alcohol regularly before sexual encounters. This qualitative study is part of a larger quantitative study designed to assess alcohol consumption patterns among female sex workers and their association with sexual risk taking. Here we investigate the environmental influence, reasons for and consequences of consuming alcohol in the FSW population.

Methods—Trained staff from two Non-Governmental Organizations in Andhra Pradesh and Kerala conducted semi-structured interviews with 63 FSWs in Chirala, Andhra Pradesh (n=35) and Calicut, Kerala (n=28) following extensive formative research, including social mapping and key informant interviews, to assess drinking patterns and sexual risk behaviors.

Results—FSWs reported consuming alcohol in multiple contexts: sexual, social, mental health and self-medication. Alcohol consumption during sexual encounters with clients was usually forced, but some women drank voluntarily. Social drinking took place in public locations such as bars and in private locations including deserted buildings, roads and inside autorickshaws (motorcycle taxis). Consequences of alcohol consumption included failure to use condoms and to collect payments from clients, violence, legal problems, gastrointestinal side effects, economic loss and interference with family responsibilities.

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Conflicts of Interest: There are no conflicts of interest. The funding source had no role in the study design, data collection, analysis or interpretation of data.

Conclusion—FSWs consume alcohol in multilevel contexts. Alcohol consumption during transactional sex is often forced and can lead to failure to use condoms. Social drinkers consume alcohol with other trusted FSWs for entertainment and to help cope with psychosocial stressors. There are multiple reasons for and consequences of alcohol consumption in this population and future interventions should target each specific aspect of alcohol use.

Keywords

alcohol; female sex worker; HIV; India; qualitative study

Introduction

India is estimated to have 2.3 million people living with HIV, most of who have acquired the virus through heterosexual transmission (NACO, 2010). Alcohol consumption may contribute to sexual risk taking and ultimately the spread of HIV (Cooper, 2006; Leigh & Stall, 1993, Samet et al., 2004). Among female sex workers (FSWs) in southern India, alcohol use prior to sex has been shown to be associated with inconsistent condom use. Of the FSWs that used alcohol prior to sex 39% reported inconsistent condom use during transactional sex versus 19% in FSWs who did not drink prior to sex (Verma et al., 2010). Thus it is important to develop a deeper understanding of drinking patterns and sexual risk behaviors in this population.

Examination of the data on alcohol consumption in India reveals that this is a predominantly male behavior. One study of alcohol consumption in Goa did not include females because a preliminary survey revealed that only a small minority (4%) of women reported drinking any alcohol in the previous 12 months (Greenfield et al., 2010). In general, women have higher abstention rates (Wilsnack et al., 2009) and there is a paucity of reports on alcohol consumption among Indian women. The data that do exist suggest a much lower incidence in women with 83% of middle aged women reporting lifetime abstention from alcohol compared to 46% of men (Sundaram et al., 1984; Benegal et al., 2005). However, alcohol consumption may be more prevalent when examining subgroups of women. Among FSWs nationwide, 44% report having ever consumed alcohol and 15% drink regularly before sexual encounters (NACO, 2001). In four South Indian states with high HIV prevalence, nearly two-thirds of FSWs and most of their clients drink alcohol (Verma et al., 2010). Younger age and better health are associated with drinking (Samet et al., 2010). In addition to a high prevalence of alcohol consumption, there is also a concentrated epidemic of HIV among FSWs in India. FSWs have a seropositivity of 4.9% compared to 0.23% among the general female population (NACO, 2008). Among sex workers in Chennai, those who drink alcohol and have a high number of partners are more likely to have forced sex (Go et al., 2011). The concurrence of alcohol consumption and high prevalence of HIV may increase the risk of transmission in this population.

There is a small but growing body of literature examining FSW drinking behavior in India. While there are some studies that have elucidated drinking patterns in the general population (Benegal et al., 2005; Girish et al., 2010), the reasons for and consequences of drinking are likely different for FSWs given that they are a uniquely vulnerable, disempowered population with multiple sex partners. This exploratory study was designed to examine the drinking patterns of FSWs in two South Indian towns: Chirala, Andhra Pradesh and Calicut, Kerala. We will examine the patterns of alcohol purchase and consumption, contexts in which FSWs consume alcohol, perceived reasons for and consequences of drinking and the implications of the findings for HIV transmission and future prevention efforts. The analyses are based on data collected during the qualitative phase of a larger, quantitative study of

alcohol as the context of sexual risk taking among two mobile and vulnerable populations: female sex workers and male migrant workers.

Setting

The major types of alcoholic beverages available in India include: beer, wine, foreign liquor, Indian-manufactured foreign liquor (IMFL) and country liquor such as *arrack* and *toddy* (Nayak et al., 2008). In rural Andhra Pradesh, 4.1% of women report alcohol dependence; most women drink *toddy*. Reasons for drinking include stress, financial freedom and easy availability (Potukuchi & Rao, 2010). In Kerala, one statewide random sampling of middle-aged women demonstrated a drinking prevalence of 0.9% (Sugathan, Soman & Sankaranarayanan; 2008). Overall, Kerala has the highest per capita consumption of alcohol in India at 8.3 liters per year (Global Alcohol Policy Alliance, 2001). However, there is deficient data on drinking patterns among women in Kerala.

FSWs in Calicut and Chirala are frequently solicited by male migrant workers. The men spend months at a time away from home. Many are bored and end up drinking and soliciting FSWs for entertainment. HIV infection is common among migrant workers and is associated with increased alcohol use and HIV risk behaviors (Saggurti et al., 2008). Truck drivers in South India also have a high rate of HIV prevalence and frequently consume alcohol and solicit FSWs along the highway system (Manjunath et al., 2002). Women living along highways in South India are more likely to be infected with HIV (Kunte et al., 1999). Chirala is a more rural town and lies on a major truck route drawing in male truck drivers. The town of Chilakaluripeta, which is included in this study, is situated along the highway and serves as an important hub for sex work.

Overall HIV prevalence differs across sites. Chirala is in the Prakasam district of Andhra Pradesh, a state that is characterized by high HIV prevalence. Prakasam has a concentrated epidemic with an HIV prevalence higher than the state average. Seropositivity amongst FSWs in Prakasam is 24% compared to 4.6% in Calicut (NACO, 2007). While Kerala has a relatively lower prevalence, the Calicut region is a high prevalence pocket with an FSW seropositivity more than two times the state average (NACO, 2007). Sex work is well established at both sites. FSWs typically solicit customers in locations determined by socioeconomic status. Homeless sex workers, who come from poor families, are often forced to solicit in public. Women from the middle class work in lodges, which are hotels that rent rooms by the hour. Home-based FSWs called “family girls” entertain clients in their own homes (Jayasree, 2004). The majority of FSWs in Chirala are brothel, street and lodge-based. In contrast, FSWs in Calicut do not commonly work in brothels, but instead work from homes, lodges and streets (Ekstrand et al., 2010). Site difference in subtypes may affect reported drinking patterns.

Alcohol policy varies by state and both the Kerala and Andhra Pradesh governments control the sale of alcohol. Both the Kerala State Beverages Corporation (KSBC) and the Prohibition and Excise Department of Andhra Pradesh have been established to take over the production and wholesale distribution of IMFL. The stated goal is to provide quality assured liquor at a reasonable price through government outlets and to protect the consumer from exploitation by middlemen (KSBC, 2011; Prohibition and Excise Department, 2002). Although enforcement has been a challenge, both states have banned the production of the country liquor *arrack*. During the initiation of the ban, there was a corresponding rise in IMFL sales in Kerala (Ramanathan, Ganesan & Kalyanaraman, 2009). Alcohol sales are tightly woven into state policy and contribute significantly to government tax revenue.

Lastly, FSWs in both states are the target of multiple stigma. It is generally less culturally acceptable for females to consume alcohol. Sex work is also a highly stigmatized profession.

Thus FSWs, especially those who drink in public, commonly face social and legal challenges. According to India's Immoral Trafficking Prevention Act, sex workers cannot publically solicit customers. Living off the earnings of the prostitution of any other person is punishable by law and establishing brothels and involving third parties such as pimps are illegal (ITPA, 1956). However, even independent, voluntary sex workers are often equivocally charged by law enforcement as a public nuisance. With an ambiguous legal status, FSWs become easy targets for harassment and violence and are considered immoral and deserving of punishment (WHO, 2005).

Methods

The study sites were the towns of Chirala and Calicut including the areas within a 50 km radius. This analysis is based on qualitative interviews with 63 FSWs from Chirala (n=35) and Calicut (n=28). Sex work was defined as providing sexual services in exchange for money, goods or other services. Fieldwork was executed by trained personnel at the Non-Governmental Organizations (NGOs) SHADOWS in Chirala and Shelter in Calicut. Both NGOs provide clinical care and support to people living with HIV. Each organization has also undergone expansion under a scale up project organized by the Y.R. Gaitonde Centre for AIDS Research and Education (YRG CARE) in Chennai (Horizons Program, YRG CARE, & the International HIV/AIDS Alliance, 2004). YRG CARE was responsible for the training and supervision of the field staff, while the Center for AIDS Prevention Studies at the University of California, San Francisco directed and coordinated the project.

A Community Advisory Board (CAB) was formed during the initial phase of the project and comprised of local stakeholders including members of the government, physicians, academia, NGOs and freestanding clinics working with FSWs. The CAB was responsible for reviewing and providing input related to each phase of the project. Preliminary investigation included social mapping of microvenues and population counting. Field staff from SHADOWS and Shelter observed local hangouts such as bus stands, cinema halls and railway stations. After building rapport, key individuals were approached and the project was explained. Gatekeepers helped build rapport with pimps and Madams (brothel managers) and would nominate sex workers eligible to participate in the survey. In a few cases, vendors and autorickshaw (motorcycle taxi) drivers helped gain access. Gatekeepers were also nominated by local NGOs specializing in services for sex workers such as sexual health screening and psychosocial support.

A semi-structured guide was developed for the qualitative interviews based on input from key informants and the CAB. The interview guide included the following themes: patterns of alcohol and drug use, context of sexual behaviors, motivations for different sexual practices and perceptions of gender-roles for men and women. The field staff used a standardized, written script to introduce the project to potential participants and completed a screening form. Eligibility criteria included: (a) age 18 or greater, (b) living in or around one of the study cities, (c) speaking one of the local languages, and (d) being engaged in sex work for at least three months at the study site. If the respondent met all of the eligibility requirements, the screener described the study in greater detail, allowed for any questions and obtained written informed consent. Interviews were conducted in private, mutually agreed-upon locations such as homes, secluded areas of restaurants and parks, in our project cars, in lodges and at the NGO offices. Individual characteristics including age, marital status and educational level were obtained from each participant. After completion of the interview, the participant received a reimbursement of Rs.150 (about $3 USD) for time and transportation. Face-to-face interviews lasted between 30 and 90 minutes and were audio-recorded, transcribed and translated into English. Two investigators independently identified and coded key themes. Initial coding was based on major themes identified among responses

for each category in the interview guide. Responses were then broken down into subthemes. The coded data were compared, and in the case of discrepancies, were reviewed by a third reader. After consensus was reached, a final catalogue of each theme, type of respondent and number of responses was recorded and the codes were applied. All identifiers were removed.

This study was approved by the Committee on Human Research at the University of California, San Francisco, by the Institutional Review Board at YRG CARE Chennai, India and received clearance by the Indian Council for Medical Research.

Results

PARTICIPANT CHARACTERISTICS

The average age of the participants in Chirala was 30.03 years (range 19–42) and in Calicut was 33.7 years (range 19–48). In Chirala, the majority of the FSWs were married (63.6%), while rest were widowed (15.2%), separated (12.1%) or had never been married (9.1%). Fewer women in Calicut were married (33.3%), while others were separated (37.5%), had never been married (20.8%) or widowed (8.3%). Participant characteristics also differed in terms of level of education. The majority of FSWs in Chirala never attended primary school (72.7%), compared to a lower number in Calicut (20.8%).

TYPES OF ALCOHOL

The majority of the FSWs interviewed reported having ever consumed alcohol. The most common types of alcohol consumed were beer and brandy while others included Indian made foreign liquor, rum, wine, gin, mixed drinks and country liquor such as *toddy* and *arrack*. Several FSWs from Calicut stated that brandy, in a figurative sense, was meant to enhance performance in racehorses. One FSW described her predilection:

> "I prefer rum the most. I drink brandy too but I am not comfortable drinking it. Brandy is meant for horses. It is injurious to our health and provokes fights. Brandy is of a cheap quality and will spoil our health." Chirala-024, age 28

In addition to alcohol, sex workers also reported using substances such as *beedi* (homemade cigarettes), *pan masala* (powdered betel quid), *ganja* (marijuana), and other unknown psychoactive drugs mixed with soft drinks.

ALCOHOL EXPOSURE IN EARLY LIFE

Several women reported alcohol exposure during their childhood. Many FSWs stated that their fathers and occasionally mothers were addicted to alcohol. FSWs either witnessed or were themselves targets of domestic violence perpetrated by intoxicated family members.

> "My mother is a drunkard…After my father's death, she started to drink more. She did not take care of the children [when she was] in the drunken stage." Chirala-029, age 26

CONTEXTS OF DRINKING

SEX-WORK RELATED USE—FSWs most commonly reported consuming alcohol during work related, sexual encounters with clients. Among the FSWs that drank during sexual encounters, most reported that clients pressured them into drinking. A few FSWs stated that they willingly drank with clients and that they either requested that the client purchase the alcohol or they purchased drinks for themselves. Overall, alcohol was usually brought by the client.

> "They [clients] are good people. They will take me to a lodge and buy food and drinks. We both drink and have sex after." Calicut-017, age 30

> "A woman who does sex work always has to consume alcohol before going out with any stranger to have sex. So I myself buy a bottle of brandy and consume it." Chirala-009, age 45

A few FSWs only drink with regular clients who they trust:

> "Mostly I drink alone or with my regular clients because the regular clients know me and use condoms even when I am intoxicated." Chirala-014, age 26

Around half the FSWs reported being encouraged or pressured by clients to drink alcohol. Clients would often pay FSWs more money if they consumed alcohol. One woman explained:

> "They [bribe] me with money and try to convince me to drink. I deny saying, 'I do not want the money putting my health under risk'. They come to me to feast on my body; will they be bothered if I fall ill? Will they pay me a single rupee if I was ill?" Calicut-025, age 29

In order to appease clients' demands some FSWs pretended to drink:

> "I will definitely cheat by pouring [alcohol] out from my glass. I will say that the alcohol was very tasty." Chirala-030, age 24

A few women reported voluntarily drinking to facilitate commercial sex. Alcohol reduced the inhibitions of sex, helped to improve confidence, stamina and sexual satisfaction:

> "I am sexually active only when I consume alcohol… I go out with men because I have courage built up by the power of alcohol." Calicut-002, age 28

> "I prefer having sex while using alcohol because the sex is more interesting. The [advantage] of consuming alcohol is that the play will last longer." Calicut-008, age 34

SOCIAL USE—Many of the FSWs interviewed reported consuming alcohol under social contexts, which most frequently involved drinking at bars with other sex workers. The colleagues purchased alcohol themselves and shared the burden of cost.

> "[My friends] are all sex workers. I only include people whom I can trust…I am a sex worker and I have lots of sorrows, I need people who look at me above my body. I need people who look at me as their sisters and friends… I can talk freely when I am drunk and it's a good feeling." Calicut-024, age 28

> "Sometimes two or three of my friends go to a bar and consume alcohol… I find that [the] bar is safe; we drink alcohol peacefully where nobody [will] say anything to any of us… If the brokers see us consuming alcohol they make a hell of a problem with us…Brokers might tell us 'When we offered you alcohol you rejected us' …Then we tell them, 'Who knows, you must have added…poison to our alcohol as revenge. '" Calicut-*028, age 26*

While the majority of social drinkers consumed alcohol in bars, some women preferred more secluded areas. Private areas such as homes, vacant buildings, quiet roads and autorickshaws (motorcycle taxis) provided FSWs with a safer environment, protected from police and public harassment.

> "Sometimes we drink from the top of a tree or on a fence on top of a terrace because of police. The police will come in search of us when we have alcohol." Calicut-027, age 26

> "We [friends] will sit in one of the autorickshaws. There will be a bottle of alcohol and another auto… A [benefit of an] auto is that one side has a curtain and once it's pulled down nobody can watch us." Calicut-003, age 21

There is a particularly strong relationship between autorickshaw drivers and FSWs in Calicut. Several FSWs reported drinking alcohol in secluded rickshaws, driving around town and asking trusted drivers to purchase alcohol.

> "When our [sex] work is over…we friends meet in town. Then we call our auto friend [driver] who knows us very well. Then we all sit in the auto and tell our friend to go and buy the alcohol from the beverage [shop]. We buy the alcohol and hide it in the auto…because all these auto drivers know what business we do and [some] auto drivers know us very well. My friends and the auto drivers enjoy the alcohol [together]." Calicut-005, age 28

MENTAL HEALTH—Another common reason for drinking was to help cope with psychosocial stressors such as domestic and economic stress and the stigma and depression associated with sex work:

> "I have lots of tension [stress] and that's the reason I consume alcohol. My tension is based on my children, home and my husband who left me." Calicut-005, age 28

> "[I drink due] to economic problems. I have problems like educating my children… and buying a house." Chirala-007, age 33

A married, illiterate FSW explained:

> "The tension which I have is that the brokers sold my body and now they are enjoying themselves with my hard earned money…All these memories and mistakes I have made keep coming back to me. All this makes me sit alone in my room and consume alcohol." Calicut-028, age 26

SELF-MEDICATION—Several FSWs were addicted to alcohol and drank to alleviate somatic symptoms of withdrawal. A few FSWs reported using alcohol to improve quality of sleep and to cope with the pain associated with menstrual cramps and debilitating injuries sustained during sexual intercourse with clients.

> "When his penis went inside my anus, I had a pain like the pain I had from delivering a baby…A few minutes back I saw blood oozing out from my anus…To overcome that pain I drank two beers." Calicut-013, age 19

> "The brandy which is made from grapes…is very good for health. Even doctors prescribe brandy as a medicine for ladies after delivery…because it acts to sedate and kill pain." Calicut-028, age 26

CONSEQUENCES OF DRINKING

The most commonly reported consequence of alcohol consumption was loss of self-control and impaired decision-making. This often resulted in failure to a condom and exploitation by the client:

> "They [clients] want to have alcohol. [If] we are intoxicated they may do anything they want, there is a chance of not using a condom. And we cannot check whether or not he is using a condom. I suffered from a sexually transmitted infection and

> that gives me fear of having sex without a condom. And there is an increased chance of getting AIDS during such situations." Chirala-018, age 30

> "We are less alert when we are drunk and we tend to unconsciously compromise on things. The condoms tend to break when we wear them improperly. Men are reluctant to use condoms, especially drunk men." Calicut-024, age 28

FSWs have developed tactics to ensure condom use:

> "If [I am] more intoxicated then I don't know what is happening to me. To avoid this I put a condom on my client first." Chirala-014, age 26

> "When I consume alcohol I use condoms. I don't have sex with anyone if I don't have a condom. So I dress him [the client] up with two condoms so it won't break." Calicut-002, age 28

Alcohol use was commonly associated with violence. Perpetrators of violence included clients, spouses, pimps and Madams. Clients pressured FSWs to drink and a subset targeted women with physical violence.

> "He [the client] will forcefully open my mouth and pour alcohol. They also beat me at that time. They burned me with cigarettes too. If I refuse to open my mouth or run [away] they hold my neck like this (They force her jaw closed and pinch her nose and pour alcohol when she tries to breathe)." Chirala-016, age 28

> "Drunk customers cause problems. They force me to drink and if I don't they beat me up and won't use condoms. Clients fight my aunt and say, 'Why did you send us this girl? She is not cooperative.' Only drunk clients cause these problems." Chirala-015, age 35

> "The lady (Madam) beat me and forced me to drink alcohol… She used anything to beat me up including [a] wire from a mobile phone. Whenever I remove my clothes I see the marks." Calicut-013, age 19

> "If my husband doesn't get money for drinking, he breaks things and beats me and my son." Calicut-016, age 28

Consuming alcohol also had legal ramifications. FSWs reported sustaining verbal abuse from the police and that police would raid bars and target sex workers. FSWs were particularly vulnerable to arrest on Sundays and during the night. In response, a few women avoided working during those times.

> "We cannot drink and have sex in this brothel because police will end up here, catch us and put us behind bars. There's always a chance of getting raided by the police. I don't [go to] bars with my friends because there are police raids. If they [police] come to know that a woman is consuming alcohol in the bar, they will put her behind bars. That's why we drink in a secluded place." Calicut-028, age 26

> "Whenever I walk alone on the road, if a police insults me I will boldly ask what they want." Chirala-024, age 28

Other consequences of drinking included alcohol induced, somatic side effects such as vomiting, headaches and body weakness. Several women also reported economic loss, which was both a direct consequence of purchasing alcohol as well as financial exploitation by the client while the FSW was intoxicated.

> "If I am drunk I will lose consciousness and doze off. The clients will slip away without paying me." Calicut-025, age 29

> "Some sex workers consume alcohol and don't know that the clients are taking money from them." Chirala-011, age 40

Most of the FSWs reported commitment to family responsibilities. Excessive alcohol consumption and the consequent economic loss impaired the women's ability to attend to the domestic needs of the family. One widow explained:

> "If I spend everything on alcohol then I won't be able to save any money for my children. Thus if the client gives [alcohol] I will take it. [Otherwise] I won't consume alcohol." Calicut-026, age 30

A married, illiterate FSW describes:

> "I'll spend a maximum of around 150 rupees [on alcohol]…I have to save money for my family; we should find provisions for money when we fell ill." Calicut-027, age 26

Discussion

Most of the FSWs in both Chirala and Calicut reported consuming alcohol, although the individual reasons for drinking varied widely by individual. Drinking behavior is a function of influences operating at the individual, interpersonal and institutional levels. Individual factors identified in our study include psychosocial stressors and the perceived need to self-medicate. Interpersonal influences included social drinking among FSWs and being pressured into drinking by clients. On an institutional level, the women reported being targeted by local law enforcement officers while drinking. Alcohol policy is under the legislative power of individual states. Liquor sales tax generates significant revenue for the government and provides economic incentive to sell alcohol. Since this was a qualitative study, we cannot accurately determine the prevalence or generalizability of reported drinking behaviors. Further quantitative studies will provide more information on this important matter. However, the majority of FSWs reported having ever had alcohol and we have identified key reasons for and consequences of drinking. Overall, we found that drinking behavior is influenced by multi-level drivers, which is consistent with a recent review of global literature on alcohol use among FSWs (Li, Li & Stanton, 2010). Identification of driving forces and the common settings under which alcohol is consumed provides us with important information about community-specific practices that can be targeted by future prevention efforts.

The most commonly reported context of drinking was during sexual encounters with clients, with the majority of these women being pressured into drinking. A few women stated that drinking was beneficial due to enhanced confidence, increased pay rate and sexual pleasure. However, most reported that the concomitant use of alcohol during sexual encounters had serious, negative consequences. These included decreased mental alertness, inability to collect payments and increased likelihood of being subject to sexual violence. Ensuring proper condom use was typically the responsibility of FSWs. However, alcohol impaired the women's ability to direct the client and sometimes resulted in improper placement or failure to use condoms. This is consistent with a recent quantitative study in southern India, which demonstrated a significant association between alcohol use prior to sex and inconsistent condom use (Verma et al., 2010). Notably, a few women in our study developed tactics to ensure condom use in anticipation of intoxication, such as placing a condom on the patient before drinking. Another tactic included simultaneously using two condoms. There have been published reports of multiple condom use in commercial sex workers in Thailand and Cambodia as well as homosexual men in the United States (Rugpao et al., 1997; Morineau et al., 2007; Wolitski et al., 2001). It is unclear whether the simultaneous use of multiple condoms affects the incidence of breakage. However, one study in Thailand did show that

the use of two condoms was associated with a lower incidence of breakage as compared to one condom alone (Rugpao et al., 1997). Condom compliance may be improved by providing the client with the opportunity to choose between one or two condoms and indirectly excluding no condom as a choice (Sokal & Ankrah, 1997).

HIV prevention efforts should attempt to reduce alcohol consumption during sexual encounters with clients given the reports of failure to use condoms while intoxicated. Many FSWs appear to be aware of the negative consequences of drinking during sexual encounters as evidenced by their reports of pretending and refusing to drink while with clients. However, the women may benefit from additional training in improved condom negotiation, use of peer support, and alcohol refusal techniques, especially in situations where drinking is likely to lead to sexual risk taking.

In addition to drinking during sexual encounters, many women also reported drinking socially. FSWs commonly congregated in bars for entertainment and emotional support in coping with psychosocial stressors associated with sex work e.g. stigma and depression. For some women, alcohol was disinhibiting and facilitated conversation on emotionally challenging personal matters. However, bars were often subject to police raids so some women opted to drink in more private locations such as deserted buildings, roads and autorickshaws. Regular support groups may be a particularly effective intervention among social drinkers. For those seeking to quit drinking, support groups may provide an alternative form of socialization. Counseling and discussion may promote interpersonal communication and the formulation of positive coping skills in the absence of alcohol. However, many FSWs drink socially to establish comradery. For these women, a support group at a safe, private location may provide a comfortable drinking environment protected from public and legal harassment.

The most striking difference in drinking behaviors across sites was the particularly strong relationship between FSWs and autorickshaw drivers in Calicut. Some FSWs relied on trusted drivers to purchase alcohol and consumed drinks in autorickshaws, which provided a safe, secluded environment. This was not reported by FSWs in Chirala, which may in part be due to Chirala's more rural setting where autorickshaws are not widely available. This dependent relationship is a novel finding and identifies a unique setting in which alcohol is consumed. It is possible that there is a mutual benefit in that drivers may introduce passengers to sex workers in exchange for a "commission". The drivers may also engage in sexual activity with FSWs as has been demonstrated in Bangladesh where alcohol consumption among migrant taxi drivers is a strong determinant of sexual risk behavior with sex workers (Roy, Anderson, Evans & Rahman, 2010). The complex nature of the driver's relationship to the sex worker requires further study as a potential risk reduction venue.

Future intervention efforts must also address the socio-economic marginalization of FSWs, which was shown to influence drinking behavior. Reasons for drinking included stress from family responsibilities, the economic burden of paying for schooling, as well as the depression associated with sex work. The stress of household responsibilities may be addressed by forming FSW collaboratives where women assist each other with childcare and support. Achieving financial security may also help reduce stress. This may be achieved through vocational training for alternative income or by maximizing the income generation of sex work. FSWs frequently suffer economic loss by failing to collect payments while intoxicated and are taken advantage of by pimps and Madams. Forgoing alcohol consumption during sexual encounters will help to sharpen mental faculties and result in greater income generation. Women should also be connected to accessible, affordable, health clinics with staff trained to provide FSW sensitive services. Women commonly used alcohol to relieve pain from menstrual cramps and sex-work related gynecologic injuries.

Provision of effective analgesic medications may help to prevent alcohol misuse and proper wound care can reduce the risk of HIV transmission.

Drinking alcohol was also associated with violence targeted at FSWs. Alcohol was a trigger for violence in all of the following groups in our study: intimate partners, clients, police, pimps and brothel managers. Physical and emotional abuse reduces a woman's ability to protect herself from HIV. The World Health Organization (WHO) states that violence is partially a manifestation of the stigma and discrimination experienced by FSWs (WHO, 2005). FSWs face a compound stigma because of their profession and their association with HIV (Bharat, Aggleton & Tyrer, 2001; Chan et al., 2007). The Sonagachi project in West Bengal has allowed for FSW organization, which has fostered the development of an effective peer-education model. The FSWs are employed as advocates for the rights of sex workers and the decriminalization of prostitution and replication of this model has been demonstrated to increase condom use (Basu et al., 2004). Decriminalizing prostitution in the two communities should involve interventions targeted at FSWs and the law enforcement community. FSWs are often unaware of their rights and due to the stigma surrounding prostitution are unable to reach out to law enforcement when their rights have been violated. Organizing women into collectives and empowering them with the knowledge and skills to self-advocate may enhance the agency of women. Sex work is a legal labor industry as long as customers are solicited in private and brothels or other third parties such as pimps are not involved. Despite the legal status of voluntary sex work, police officers often target FSWs. Stigma reduction efforts and legal training among the law enforcement community is imperative in the decriminalization of prostitution.

As evidenced by another alcohol and HIV prevention program in northern India, the involvement of local community organizations in the design, implementation and evaluation of the program is imperative in the eventual, long-term adoption of the intervention by the community (Chhabra et al., 2010). In the present study, the NGOs SHADOWS and Shelter, together with their local networks, have been closely involved with the design and implementation of all aspects of fieldwork for this project. This makes the organizations ideal institutions to implement future, sustainable interventions specific to the respective community characteristics identified in this study.

In conclusion, drinking behavior across female sex workers varies widely and is influenced by multi-level drivers. The two most common contexts of drinking were during sexual encounters with clients and social drinking with colleagues. Social drinking in safe settings is in many cases a positive experience for FSWs and typically does not place the women at increased risk for harm. Future interventions need to help women figure out how they can reduce the risk of violence and disease transmission and, according to our participants, drinking alcohol prior to sex can interfere with this goal. Since drinking behavior varies widely across individuals, future interventions aimed at addressing sexual risk behavior and alcohol consumption should employ models that provide a menu of options that can be tailored based on individual and community needs.

Limitations

Like all studies, this one has several limitations. First, it is unclear to what extent that the study group represents the larger population of FSWs in the regions. While every attempt was made to build rapport and identify a broad representative sample of FSWs, based on our mapping phase, some women were inaccessible. This included some brothel-based FSWs, who were difficult to access due to resistance from pimps and Madams and who may therefore be under-represented. Home-based women, who practiced in private settings and who were not connected to social networks may not have been identified during community

observation. Second, although interviewers received special training to act in non-judgmental ways and to normalize all behaviors, participants' responses may reflect their interest in providing socially desirable responses. In addition, while every attempt was made to provide a private location, clients sometimes interrupted interviews and this knowledge may have impacted the degree to which the FSWs felt comfortable. Hopefully, in spite of these limitations, this study provides important data to expand the limited body of research available on drinking patterns and sexual risk behavior among Indian FSWs.

Acknowledgments

We gratefully acknowledge the funding support received from the U.S. National Institute on Alcohol Abuse and Alcoholism (5R01AA015298, M. Ekstrand, PI). We also extend special thanks to Sethulakshmi Johnson of YRG CARE and Dr. Davidson Solomon of SHADOWS for their invaluable contribution to the implementation of this project. The authors would like to thank the SHADOWS, Shelter, and YRG CARE field staff for their commitment to the work of data gathering and the participants for sharing their stories with us for this study.

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