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Abstract

This cross-sectional study describes the prevalence and context of violence by sexual partners against female sex workers (FSWs, $N = 589$) in Andhra Pradesh and its association with alcohol use by FSWs and abusive partners. In all, 84% of FSWs reported alcohol use; 65% reported lifetime physical abuse by a sexual partner. Most abused women suffered abuse from multiple partners, often triggered by inebriation or FSW's defiance. In multivariate logistic regressions, frequency of FSW's alcohol use was associated with abuse by clients and primary partner, whereas partner's alcohol use was only significant for abuse by primary partner, not clients.

Keywords

alcohol, violence, female sex workers, India

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Introduction

Worldwide, female sex workers (FSWs) are a marginalized and vulnerable population exposed to stigma (Scambler & Paoli, 2008; Scorgie et al., 2013), violence (Hail-Jares et al., 2015; Okal et al., 2011; Semple et al., 2015), sexually transmitted infections, and HIV (Baral et al., 2012; Su et al., 2016). Although sex work is not illegal in India, the country's Immoral Traffic (Prevention) Act (1956) states that sex workers cannot solicit customers in public. Furthermore, 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. However, even independent, voluntary sex workers are often charged by police as a public nuisance. With a legal status misunderstood by most and widely considered immoral and deserving of punishment, FSWs are marginalized and stigmatized, and easy targets for discrimination, harassment, and violence (Swain, Saggurti, Battala, Verma, & Jain, 2011).

Intimate partner violence (IPV) has long been recognized as a serious public health concern for women worldwide (Campbell, 2002; World Health Organization [WHO], 2013). Global data indicate that the prevalence of IPV against women ranges from 23% in high-income countries to 38% in low- and middle-income countries in South-East Asia (WHO, 2013), and IPV has been shown to be a risk factor for HIV transmission for women (Y. Li et al., 2014). The 2005-2006 National Family Health Survey (NFHS-3) reported the rate of women who experienced physical or sexual violence in India to be 35% and 40%, respectively, among ever-married women (International Institute for Population Sciences & Macro International, 2007). Initially, most IPV-related research was conducted among women in the general Indian population (Ackerson, Kawachi, Barbeau, & Subramanian, 2008; Panchanadeswaran & Koverola, 2005; Silverman, Decker, Saggurti, Balaiah, & Raj, 2008); however, more recently, a literature on abuse of FSWs has emerged (Beattie et al., 2010; Deering et al., 2013; Karandikar & Gezinski, 2013; Panchanadeswaran et al., 2008; Reed, Gupta, Biradavolu, Devireddy, & Blankenship, 2010).

Previous research in Africa (Pack, L'engle, Mwarogo, & Kingola, 2013; Schwitters et al., 2015), China (Zhang et al., 2013; Zhang et al., 2015), and Mongolia (Carlson et al., 2012) has shown that alcohol consumption by FSWs or their sexual partners contributes to higher rates of physical abuse. Although only about 2% of the general female population in India drinks alcohol (International Institute for Population Sciences & Macro International, 2007), alcohol consumption is more common among FSWs (Alexander et al., 2014; Nuken, Kermode, Saggurti, Armstrong, & Medhi, 2013; Samet et al., 2010). In four South Indian states with high HIV prevalence, including Andhra Pradesh, 62% of FSWs reported drinking alcohol in the past month, often prior to having sex (Verma, Saggurti, Singh, & Swain, 2010). Our previous qualitative work found that alcohol consumption during transactional sex is often forced and can lead to experiences of violence as well as lower rates of condom use (Heravian et al., 2012; Rodriguez et al., 2010).

There are notable gaps in the literature in regard to the potential intersection of violence and alcohol use by FSWs and especially by their sexual partners. Global

reviews of both the association between IPV and alcohol use in women (Devries et al., 2014) and the correlates of violence against sex workers (Deering et al., 2014) noted a lack of studies looking at partners' alcohol use. For India specifically, previous studies have investigated violence from clients (e.g., Beattie et al., 2010; Deering et al., 2013), but few have examined abuse of FSWs by primary partners (Deering et al., 2013; Panchanadeswaran et al., 2008). Only Panchanadeswaran and colleagues (2008) studied experiences of abuse and alcohol use by both the FSWs and their sexual partners, but only via qualitative methods. The current article aims to address this gap by analyzing data from a quantitative survey among a diverse group of FSWs who solicit and work in different venues in Chirala, Andhra Pradesh, to examine patterns of physical abuse from different partners and alcohol use by both the FSWs and abusive partners. We further aim to describe the implications of our findings for future prevention efforts.

Method

Study Setting and Sample

The sample presented in this article was part of a larger study examining the role of alcohol in sexual risk-taking among male migrant workers and FSWs in South India. The present article examines quantitative data on alcohol use and IPV among FSWs in the state of Andhra Pradesh. We enrolled 601 FSWs in and around Chirala, a coastal town of about half a million inhabitants, with a large population of male migrant workers attracted to the local farming, textile, and fishing industry. The Chirala region also encounters significant trucking traffic, and both factors contribute to a large sex industry. Descriptions of the setting and qualitative results based on in-depth interviews with FSWs and male migrants in the preliminary stages of the study have been reported previously (Heravian et al., 2012; Rodriguez et al., 2010). Before recruitment for the study began, the study's local nongovernmental organization (NGO) partner conducted social mapping and key informant interviews to identify cruising locations for FSWs and provide points for directly accessing FSWs or sex work brokers, such as pimps, brothel managers, vendors, and drivers. Nonprobability sampling strategies, including referrals from NGOs, brokers, or other FSWs, were used to ensure adequate representation of FSWs using different venues for client solicitation (e.g., brothel, street, migrant worker lodges, home).

To be eligible for participation, individuals had to be at least 18 years old, female, speak either the local language (Telugu) or English, live in or within 50 km of Chirala, and be engaged in sex work locally for at least 3 months. Sex work was defined as providing sexual services in exchange for money, goods, or other services. FSWs exhibiting cognitive impairment or intoxication were excluded. Twelve participants interviewed early in the study had missing data on all IPV items because these questions were included only after their data were already collected. These participants were excluded from the present analyses, leaving a sample of 589 FSWs. Data were collected between December 2009 and July 2010.

Interviewers were specially trained to interact in nonjudgmental ways while asking questions on sensitive topics. With each participant, they secured a place that ensured privacy, obtained informed consent, and conducted a face-to-face interview that lasted approximately 1 hr. The interview content included demographics, alcohol use patterns and contexts, sexual practices with different partner types, experiences of IPV, gender norms, and other psychosocial factors. After completion of the survey, the participant received a sari worth about Rs. 150 (about US\$3) as a token of appreciation. Study procedures were approved by the Committee on Human Research at the University of California, San Francisco and by the Institutional Review Board at YRG CARE Chennai, India, and received clearance by the Indian Council for Medical Research and the Indian Health Ministry Screening Committee.

Measures

The following measures were used for analyses. Unless otherwise indicated, they were developed for this study, based on the formative phase of the project. Measures not already available in Telugu were translated from English and back-translated, and all were pilot-tested to ensure adequacy for the current population.

Prevalence of lifetime and past-year IPV. Respondents were asked whether they had ever faced physical abuse by clients, casual partners, or primary partners (spouse or committed romantic relation). Another question asked about the frequency (0 = *never* to 3 = *every time*) with which the FSW had endured different forms of IPV in the past year: being hit, kicked, pushed/pulled down/held, burned, strangled, threatened, or attacked with a weapon (Garcia-Moreno, Jansen, Ellsberg, Heise, & Watts, 2006). Responses were dichotomized as never versus at least once.

Context of abuse. Participants responded to the question “Thinking back over the past year, in what situations did this violence occur?” with *yes* or *no* to eight situations that were based on findings from our formative work and included arguments over money, disobeying their partner, suspected infidelity, refusing sex, or partner’s inebriation.

IPV and alcohol. The frequency with which the abusive partner and the FSW were under the influence of alcohol during IPV episodes in the past year (0 = *never* to 3 = *often/always*) and during the last episode of IPV (*yes/no*) was assessed.

Attitudes toward violence. Participants used a 3-point response scale (*agree*, *partially agree*, and *do not agree*) to answer four questions from the Gender-Equitable Men Scale (Pulerwitz & Barker, 2008) that pertained to abuse: “There are times when a woman deserves to be beaten,” “A wife should tolerate violence to keep the family together,” “If a woman cheats on a man, it is okay for him to hit her,” and “It is okay for a man to hit his wife if she won’t have sex with him.”

Alcohol use frequency. This was assessed for the FSW by asking, “On average, how often do you have a drink?” Response options ranged from 0 (*never*) to 5 (*every day*).

Frequency of sex under the influence of alcohol by the partner. This was assessed via a single item, with five response options ranging from 0 (*never*) to 4 (*always*).

Venue of sex. The locations where FSWs had sex with their clients were classified into four categories: public places (roadside/alley, park, beach, empty house, forest), brothels, client-based locations (client residence, lodges where male migrant workers reside), and home (participant's or friend's residence). Participants could endorse multiple sex venues.

Lifetime consistent condom use with clients. This was originally assessed on a 5-point response scale ranging from *never* to *always* and subsequently dichotomized as consistent (1 = *always*) versus inconsistent (0 = all other response options).

Payment for sex work. This was assessed by asking how much the FSW was paid last time she had transactional sex. The response was categorized as less than Rs. 500 (about US\$7.34), Rs. 500 (the median), and more than Rs. 500.

Forced to do sex work. This was a dichotomous variable based on the question about how the respondent became a FSW. Answers of "only way to earn money" and "was forced into it by someone else" were coded 1, whereas "way to make extra spending money" or "other" responses were coded 0.

Decision-making power. Decision-making power in the participant's relationship with her primary partner was measured via an 8-item scale developed by Pulerwitz, Gortmaker, and DeJong (2000). It contained questions such as the following: "Who usually has more say about what you do together?" (1 = *your partner*; 2 = *both of you equally*; 3 = *you*). We used six similar questions and the same response format for decision-making power with clients. Reliability in our sample was $\alpha = .92$ for the items about primary partners and $.77$ for the items about clients. For regression analyses, the variables were median split. For decision making within the primary relationship, this resulted in a split between the primary partner having more power (0) and the FSW having equal or more power (1). As the FSW was generally more in control in the client relationship, the split for this variable divided responses into equal power or client having more power (0) versus FSW having more power (1).

Demographic variables. These included questions about age, employment other than sex work (whether employed, and if so what kind), education (ranging from illiterate to higher education degree), marital status (and relationship with primary partner if never or previously married), and religion (Hindu, Christian, Muslim, other). Participants were also asked about age at first sexual experience and age when they first started sex work.

Data Analysis

Descriptive statistics consisted of one- and two-way frequency tabulations, means, and standard deviations. We examined differences in demographic characteristics and rates of IPV between FSWs who consumed alcohol and those who did not by

comparing the two groups via chi-square test in the case of categorical variables and *t* test or Mann–Whitney *U* test in the case of continuous variables. To assess the association between alcohol use and IPV, we then conducted separate multivariate logistic regressions with IPV by clients and primary partners as the outcomes. The variable representing alcohol use by FSWs was general alcohol use frequency, treated continuously. For partners' alcohol use, the only available variable was alcohol use frequency during sex, which was also treated continuously. We controlled for sociodemographics and other variables that were found to be related to IPV in previous research (Beattie et al., 2010; Deering et al., 2014; Ulibarri et al., 2010; Zhang et al., 2013; Zhang et al., 2015) and were found to be associated bivariate with IPV in this sample at $p \leq .10$. Venue of sex work has been found to be associated with abuse (Deering et al., 2014) but was not included in the current regressions due to the large amount of overlap of the different venue categories endorsed. Analyses were carried out in Stata version 11.2. All significance levels reported are two-sided.

Results

Demographics and Sex Work

As shown in Table 1, the mean age of participants was 29 years. Ninety-five percent of participants currently had a primary partner, though only 53% were formally married. The majority of participants either had no education (55%) or only a primary education (30%). Most were Hindu (55%) or Christian (42%). Nearly nine out of 10 FSWs performed other work besides sex work, including farming, factory work, construction work, and sewing. Most FSWs reported performing sex work in two to three different types of venues ($M = 2.5$ out of 4), especially public places (88%) or at home (69%). Nearly three quarters felt they had been forced to become a sex worker by another person or out of economic necessity, on average at the age of 24 ($SD = 4.6$). Lifetime consistent condom use with clients was reported by 55% of the sample, but hardly any FSWs (5%) ever used a condom with their primary partner. A majority of FSWs (58%) reported having more power than their clients, but the reverse was found in the relationship with primary partner: 53% felt the primary partner had more decision-making power than the FSW herself.

Alcohol Use and Abuse by Sexual Partners

Alcohol use was common in our sample. While 16% of FSWs reported that they never drank, two thirds drank at least once a week and 8% every day (Table 1). Physical abuse was common as well. Sixty-five percent of FSWs reported experiencing at least one lifetime event of abuse by a sexual partner, often a primary partner (52% of total).

In total, 61% of the whole sample and 93% of ever-abused FSWs reported IPV by clients or a primary partner in the past year. Only five of these 358 FSWs reported that there was never any alcohol use by the abusive partner when the IPV occurred, and 65% stated that the abusive partner "sometimes" drank when he was abusive (Table 2).

Table 1. Demographic and Other Sample Characteristics (*N* = 589).

Characteristic	<i>n</i>	%
Marital status		
Married	314	53.3
Single	39	6.6
Separated/divorced/deserted	149	25.3
Widowed	87	14.8
Has primary partner	560	95.1
Education		
None	323	54.8
Primary	175	29.7
Secondary or higher	91	15.4
Religion		
Hindu	321	54.5
Christian	246	41.8
Muslim	20	3.4
Other	2	0.3
Employed other than sex work	525	89.1
Location sex work ^a		
FSW's/friend's home	407	69.1
Brothel	232	39.4
Public venues	517	87.8
Clients' lodgings	287	48.7
Forced to do sex work	434	73.7
Lifetime consistent condom use with clients	323	54.8
Decision-making power with clients: FSW more power	344	58.4
Decision-making power with primary partner (<i>n</i> = 578) ^b :	269	46.5
FSW equal/more power		
Ever experienced physical IPV ^a		
By client	257	43.6
By primary partner (<i>n</i> = 578) ^b	303	52.4
By casual partner (<i>n</i> = 571) ^b	60	10.5
By any partner ^c	384	65.2
Alcohol use frequency		
Never	97	16.5
<1 time per week	99	16.8
1-2 days per week	238	40.4
3-4 days per week	100	17.0
5-6 days per week	9	1.5
Every day	46	7.8
Current age: <i>M</i> (<i>SD</i>)	29.2	(6.0)
Age at start of sex work: <i>M</i> (<i>SD</i>)	23.6	(4.6)
Pay for last sex job (in Rs.): median (range)	500	(30-5,000)

Note. FSW = female sex worker; IPV = intimate partner violence.

^aMultiple responses were possible, so total exceeds 100%.

^bOnly for those who ever had this type of partner, hence smaller *n*.

^cThat is, ≥1 endorsement of IPV by client, primary partner, or casual partner.

Table 2. Alcohol Use and Physical Abuse Frequencies in the Past Year, Separated by Partner Type.

Characteristic	Total (n = 358)		IPV by clients only (n = 48)		IPV by PP only (n = 108)		IPV by clients and PP (n = 202)		p value
	n	%	n	%	n	%	n	%	
Past year, partner had used alcohol when IPV occurred									.043
Never	5	1.4	1	2.1	3	2.8	1	0.5	
Rarely	102	28.5	18	37.5	29	26.9	55	27.2	
Sometimes	232	64.8	23	47.9	70	64.8	139	68.8	
Often/always	19	5.3	6	12.5	6	5.6	7	3.5	
Past year, FSW had used alcohol when IPV occurred									<.001
Never	90	25.1	13	27.1	43	39.8	34	16.8	
Rarely	48	13.4	11	22.9	11	10.2	26	12.9	
Sometimes	215	60.1	23	47.9	54	50.0	138	68.3	
Often/always	4	1.1	1	2.1	0	0	4	2.0	
Last time partner was abusive									
Partner had used alcohol	335	93.6	48	100	92	85.2	195	96.5	<.001
FSW had used alcohol	236	66.1	26	55.3	51	47.2	159	78.7	<.001

Note. IPV = intimate partner violence; PP = primary partner; FSW = female sex worker.

Nearly as many (60%) FSWs reported “sometimes” being intoxicated at the time of the abuse themselves. There were significant differences in proportions on these alcohol frequency variables, depending on whether the FSW reported IPV by clients only ($n = 48$), primary partners only ($n = 108$), or both types of partners ($n = 202$). On the whole, FSWs who were abused by both types of partners reported higher frequencies of alcohol use compared with those abused by only primary partners and, to a lesser extent, by only clients. Alcohol use by partner was reported by relatively more FSWs abused only by clients in the past year. See Table 2 for details.

Among the FSWs reporting at least one instance of IPV in the past year by a primary partner or client, the most common forms of violence experienced were pushed/pulled/held down (92%), partner hit or threw object at FSW (82%), and partner kicked and/or dragged FSW (78%). The most commonly reported contexts for abuse in the past year included partner being drunk (85%), FSW “talking back” (73%), “disobeying” partner (72%), and money (51%). Again, there were some significant differences between the three groups, as seen in Table 3. Initiation of condom use, for example, was reported more by FSWs who reported abuse by clients only, whereas money and suspicion of infidelity were reported relatively more by those abused by primary partners only. Disobeying and partner intoxication were reported relatively more by participants abused by both partner types.

Virtually all FSWs agreed with statements justifying violence against women. In all, 89% of FSWs either agreed or partially agreed that sometimes a wife deserves a beating, 97% (partially) agreed that a wife should tolerate violence to keep the family together, 90% (partially) agreed that if a woman cheats on a man it is okay for him to hit her, and 94% agreed that it is okay for a man to hit his wife if she refuses sex with him.

Correlates of Abuse by Clients

Unadjusted (OR) and adjusted (AOR) odds ratios for correlates of abuse by clients are shown in Table 4. FSWs’ own frequency of alcohol use was associated with higher odds of IPV by clients (AOR = 1.35, 95% confidence interval [CI] = [1.14, 1.59]). Frequency of client alcohol use at the time of sex was significantly related in bivariate analyses to abuse by clients, but the relationship was no longer statistically significant after controlling for the other (potential) correlates (AOR = 0.85, 95% CI = [0.68, 1.06]). Not surprisingly, FSWs engaging more frequently in sex work had higher odds of abuse by clients than those who did so less often (AOR = 2.08, 95% CI = [1.47, 2.95]). Those who reported being forced to do sex work had more than twice the odds of abuse by clients than those who did not (AOR = 2.15, 95% CI = [1.27, 3.61]). FSWs who reported they consistently used condoms with clients had significantly lower odds of abuse (AOR = 0.21, 95% CI = [0.14, 0.33]). Variables that showed a significant bivariate relationship to abuse by clients, but were not significantly related in the multivariate analyses, were, in addition to client alcohol use, employment other than sex work, amount paid for sex work, decision-making power with clients, age at start of sex work, education, and religion, although the latter was marginally significant (see Table 4 for details).

Table 3. Characteristics of IPV Among FSWs Who Report at Least One IPV Event by Clients or Primary Partner in Past Year.

	Total (n = 358)		IPV by clients only (n = 48)		IPV by PP only (n = 108)		IPV by clients and PP (n = 202)		p value
	n	%	n	%	n	%	n	%	
Type of IPV experienced									
Push/pull/hold down	328	91.6	37	77.1	99	91.7	192	95.0	<.001
Hit/throw object	294	82.1	31	64.6	81	75.0	182	90.1	<.001
Kick/drag	279	77.9	22	45.8	90	83.3	167	82.7	<.001
Tried to burn/strangle	38	10.6	5	10.4	9	8.3	24	11.9	.626
Threaten with weapon	14	3.9	1	2.1	3	2.8	10	5.0	.502
Attack with weapon	11	3.1	2	4.2	3	2.8	6	3.0	.891
Perceived trigger for IPV									
Partner drunk	303	84.6	37	77.1	83	76.9	183	90.6	.002
Talked back	262	73.2	26	54.2	82	75.9	154	76.2	.006
Disobeyed	257	71.8	28	58.3	71	65.7	158	78.2	.006
Money	184	51.4	28	58.3	77	71.3	79	39.1	<.001
Refused type of sex	123	34.4	23	47.9	35	32.4	65	32.2	.104
Refused sex	114	31.8	16	33.3	28	25.9	70	34.7	.283
Suspected unfaithful	105	29.3	3	6.3	39	36.1	63	31.2	.001
Initiated condom use	61	17.0	15	31.3	10	9.3	36	17.8	.003

Note. IPV = intimate partner violence; FSW = female sex worker; PP = primary partner.

Table 4. Correlates of Abuse by Clients (*n* = 584).

	Unadjusted		Adjusted	
	OR	95% CI	AOR	95% CI
Frequency of FSW alcohol use	1.25	[1.10, 1.42]	1.35	[1.14, 1.59]
Frequency of client alcohol use at sex	0.73	[0.62, 0.86]	0.85	[0.68, 1.06]
Frequency of sex work	3.17	[2.44, 4.11]	2.08	[1.47, 2.95]
Forced to do sex work	4.57	[2.94, 7.10]	2.15	[1.27, 3.61]
Pay for last sex work job				
<Median	1		1	
Median (= Rs. 500)	0.44	[0.29, 0.66]	0.71	[0.43, 1.18]
>Median	0.42	[0.28, 0.64]	0.70	[0.42, 1.16]
Consistent condom use with clients	0.14	[0.10, 0.20]	0.21	[0.14, 0.33]
Decision-making power with clients	0.47	[0.34, 0.67]	0.74	[0.49, 1.11]
Age	0.99	[0.96, 1.02]		
Age at start of sex work	0.96	[0.92, 0.99]	1.01	[0.97, 1.06]
Non-sex work employment	0.42	[0.23, 0.72]	0.89	[0.47, 1.71]
Education				
None	1		1	
Primary	1.12	[0.77, 1.62]	1.05	[0.65, 1.67]
≥Secondary	2.33	[1.45, 3.75]	1.60	[0.91, 2.82]
Christian religion	1.60	[1.15, 2.23]	1.44	[0.95, 2.18]
Marital status				
Married	1			
Single	1.43	[0.73, 2.79]		
Separated/divorced/deserted	0.85	[0.58, 1.26]		
Widow	0.79	[0.48, 1.28]		

Note. OR = odds ratio; CI = confidence interval; AOR = adjusted odds ratio; FSW = female sex worker.

Correlates of Abuse by Primary Partner

Similar analyses, with a slightly modified set of predictors, were run with abuse by primary partner as the outcome. As shown in Table 5, both frequency of alcohol use by the FSW and alcohol use by primary partner at time of sex were positively related to abuse by primary partner, though not strictly linearly. As Figure 1a illustrates, the predicted probability of abuse rose when FSWs’ alcohol use frequency increased from never to 3-4 days a week, but not any more after that. A similar but less pronounced relationship was observed for the primary partner alcohol variable (the quadratic term was only marginally significant in the multivariate analyses; see Figure 1b). Those with more frequent (AOR = 3.14, 95% CI = [2.19, 4.50]) or forced participation in sex work (AOR = 2.16, 95% CI = [1.31, 3.58]) had higher odds of IPV by primary partner than those with lower frequency or more voluntary reasons for sex work. Reporting more decision-making power in the primary

Table 5. Correlates of Abuse by Primary Partner (*n* = 556).

	Unadjusted		Adjusted	
	OR	95% CI	AOR	95% CI
Frequency of FSW alcohol use				
Linear term	2.35	[1.43, 3.85]	3.38	[1.80, 6.36]
Quadratic term	0.93	[0.86, 0.99]	0.87	[0.79, 0.96]
Frequency of primary partner alcohol use at sex				
Linear term	2.02	[1.29, 3.18]	1.77	[1.01, 3.11]
Quadratic term	0.83	[0.74, 0.93]	0.88	[0.77, 1.02]
Frequency of sex work	2.98	[2.30, 3.85]	3.14	[2.19, 4.50]
Forced to do sex work	3.52	[2.38, 5.22]	2.16	[1.31, 3.58]
Pay for last sex work job				
<Median	1		1	
Median (= Rs. 500)	0.55	[0.37, 0.82]	0.89	[0.52, 1.51]
>Median	0.86	[0.58, 1.29]	1.17	[0.68, 2.00]
Decision-making power with primary partner	3.92	[2.76, 5.54]	3.70	[2.30, 5.94]
Age	0.99	[0.96, 1.01]		
Age at first sex	0.94	[0.89, 1.02]		
Non-sex work employment	0.96	[0.55, 1.65]		
Education				
None	1		1	
Primary	1.59	[1.09, 2.31]	1.70	[1.03, 2.79]
≥Secondary	2.51	[1.53, 4.11]	1.64	[0.88, 3.05]
Christian religion	1.40	[1.00, 1.96]	1.43	[0.91, 2.25]
Marital status				
Married	1		1	
Single	0.15	[0.05, 0.46]	0.05	[0.01, 0.17]
Separated/divorced/deserted	2.01	[1.33, 3.03]	1.68	[1.01, 2.82]
Widow	0.59	[0.37, 0.96]	0.44	[0.24, 0.84]

Note. OR = odds ratio; CI = confidence interval; AOR = adjusted odds ratio; FSW = female sex worker.

relation was positively related to odds of abuse by primary partner (AOR = 3.70, 95% CI = [2.30, 5.94]). Of the demographic correlates, only marital status remained significantly related to odds of IPV when controlling for all other variables simultaneously. Never married and widowed FSWs both reported lower odds of IPV than currently married FSW (AOR = 0.05, 95% CI = [0.01, 0.17] and AOR = 0.44, 95% CI = [0.24, 0.84], respectively), whereas separated/divorced/deserted FSWs reported higher odds than married FSWs (AOR = 1.68, 95% CI = [1.01, 2.82]). Education was marginally significant, with those with a primary education reporting higher odds of IPV than those without formal education (AOR = 1.70, 95% CI = [1.03, 2.79]).

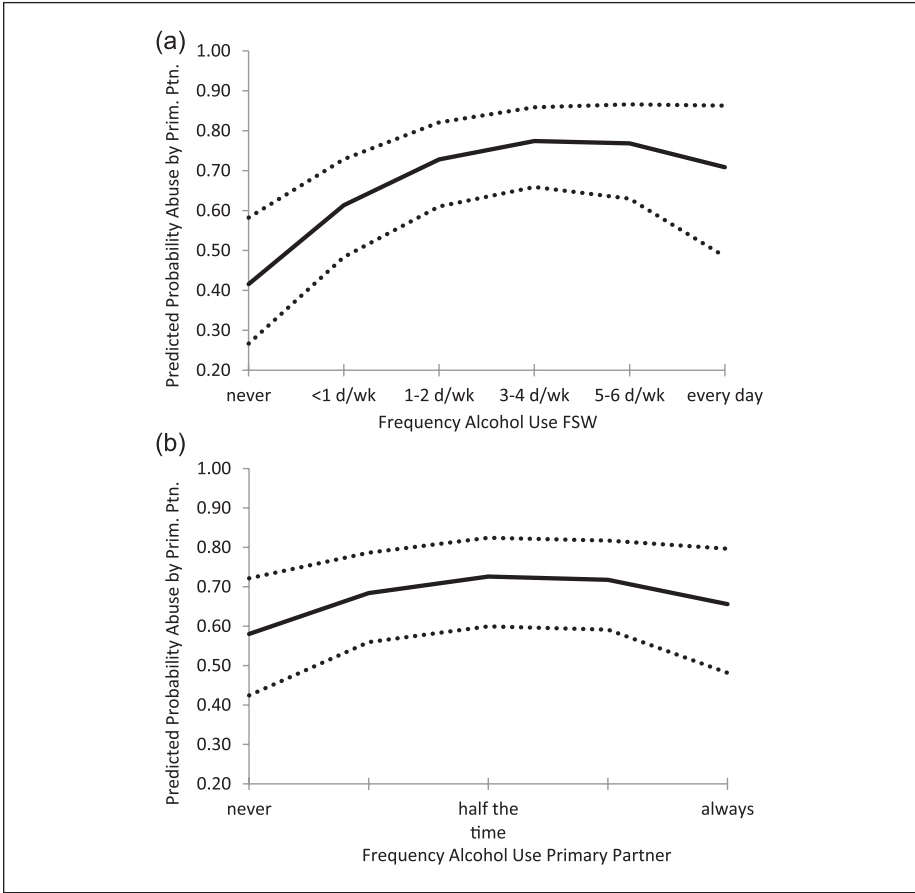


Figure 1. Predicted probability of abuse by primary partner (solid line) and 95% CI (dashed line) by frequency of alcohol use of (a) FSW and (b) primary partner.

Note. Values of other covariates are set to no education, non-Christian, married, forced to do sex work, at least equal decision-making power, sex work pay <Rs. 500, and mean level of other alcohol variable.

CI = confidence interval; FSW = female sex worker.

Discussion

This study found high levels of abuse by sexual partners among a cohort of FSWs in Chirala, Andhra Pradesh. Sixty-five percent of participants reported at least one life-time occurrence of abuse by a sexual partner. Of those, the vast majority reported abuse in the past year, and more than half by both clients and a primary partner, suggesting these women likely repeatedly experienced being pushed, pulled, held down, hit, kicked, or dragged—the most commonly reported forms of violence. These proportions are high compared with those found in most other studies among Indian

FSWs (Beattie et al., 2010; Deering et al., 2014; Deering et al., 2013; Erausquin, Reed, & Blankenship, 2011; Ramesh, Ganju, Mahapatra, Mishra, & Saggurti, 2012; Reed et al., 2016) and on the high end globally (Carlson et al., 2012; Deering et al., 2014; Hail-Jares et al., 2015; Pack et al., 2013; Schwitters et al., 2015; Semple et al., 2015; Ulibarri et al., 2014; Wechsberg, Lusen, & Lam, 2005; Wilson et al., 2016; Zhang et al., 2013; Zhang et al., 2015), although different definitions (e.g., physical or sexual violence or a combination) and time frames make comparisons hard. Notable in our study as well is that more report abuse by primary partners than by clients. Many other studies find the opposite (Beattie et al., 2010; Carlson et al., 2012; Deering et al., 2013; Hail-Jares et al., 2015, but see El-Bassel, Witte, Wada, Gilbert, & Wallace, 2001; Reed et al., 2016, for findings consistent with ours), which might again be due partly to definition or the high proportion of FSWs with a primary partner in our study. The high levels of agreement the FSWs expressed with statements justifying violence against women might well be an indication that they basically accept this as part of life and illustrates how ingrained tolerance of violence against FSWs, and women in general, still is among many in India, even among women themselves. For example, the 2015-2016 NFHS survey (International Institute for Population Sciences & ICF, 2017a) found that 82% of women in Andhra Pradesh agreed wife beating was justified in certain situations, an increase from 75% ten years earlier (Kishor & Gupta, 2009).

We also found high rates of alcohol use in our sample, as more than four out of five FSWs reported consuming alcohol, most of them at least weekly. This aligns with previous research that has found alcohol use to be much more common among FSWs (Alexander et al., 2014; Q. Li, Li, & Stanton, 2010; Saggurti et al., 2012; Samet et al., 2010; Verma et al., 2010) than among the general female population in either India overall (2%, International Institute for Population Sciences & Macro International, 2007) or Andhra Pradesh in particular (0.4%; Ministry of Health and Family Welfare, Government of India, 2015-16). Our descriptive findings showed that when abuse had occurred in the previous year, in many instances, the FSW and the abusive partner had been drinking at the time. Partner's drunkenness was the most endorsed context for abuse. We also learned from in-depth FSW interviews, conducted during an initial qualitative portion of our study (Heravian et al., 2012; Rodriguez et al., 2010), that using alcohol when performing sex work often led to impaired decision making as well as being less able to notice warning signs of violence and to physically escape the situation once it turned violent. Although we cannot definitely determine causal relationships with the current survey data given the cross-sectional design, these complementary qualitative findings suggest that the association between alcohol use and IPV from clients is complex. Rather than being strictly causal (e.g., alcohol leads to a greater propensity for a client to be violent), the observed association may be driven by the modifying effect that alcohol has on FSWs' coping skills, making it more difficult for them to avoid abuse as a situation begins to turn violent.

The descriptive results suggesting a relationship between FSWs' own alcohol use and physical abuse were confirmed in multiple logistic regression analyses. The frequency of FSWs' overall alcohol use remained associated with higher adjusted odds of abuse by clients after controlling for other potential correlates. This is consistent with

several previous studies (Chersich et al., 2007; Schwitters et al., 2015; Semple et al., 2015; Zhang et al., 2013), although others found no relationship (Panchanadeswaran et al., 2010; Surratt, 2007; Ulibarri et al., 2014; Wechsberg et al., 2005). The association with abuse by primary partner was a bit more complex. The odds of abuse by a primary partner were lowest for FSWs who did not consume alcohol at all. As alcohol use frequency increased, the odds of abuse rose more slowly and eventually began to reverse for the heaviest alcohol consumers. This suggests that in terms of IPV risk, the exact frequency of drinking, especially beyond the occasional level, was less important than whether the FSW consumed any alcohol at all. These results are different from Zhang et al. (2015), who found that Chinese FSWs who consumed alcohol were not significantly more likely to report IPV than FSWs who never drank, but are in line with several studies among the general population that have documented a link between a woman's alcohol use and IPV (see Devries et al., 2014). We could not determine from our survey data whether alcohol use is modifying the FSWs' coping skills as it does in their interaction with clients, or whether the effect is driven by other dynamics, such as the FSWs drinking as a way of coping with anticipated violence from their primary partner whom they cannot as easily escape or avoid as they can a client. These explanations are not mutually exclusive, and longitudinal studies do show evidence for women's alcohol use and subsequent IPV, as well as IPV and subsequent alcohol use (Devries et al., 2014).

One of the strengths of our study is that we included partners' alcohol use in multivariate regression analyses, in addition to the FSWs' own use. In terms of client alcohol use, our results showed no significant relation with odds of abuse after adjusting for covariates. The only two comparable studies we are aware of found a positive relationship, but one (Ulibarri et al., 2014) looked at drug use by clients, rather than alcohol use, and the other (Go et al., 2011) combined paying and nonpaying partners, and their outcome was forced sex rather than physical violence. Though challenging to assess, further quantitative research is warranted to explore the role of client alcohol use, which has been documented qualitatively to be important (Heravian et al., 2012; Panchanadeswaran et al., 2008; Rodriguez et al., 2010). Inebriated clients are more prone to aggression, but on the other hand, FSWs will sometimes try making clients drink more alcohol as a strategy to get away from, placate, or trick such clients (Panchanadeswaran et al., 2008).

Primary partner's alcohol use at the time of sex showed a marginally curvilinear relation with IPV, with odds of abuse rising as the frequency of primary partner's alcohol use rose until midway up the scale and then starting to decrease beyond that. The effect was not as strong as FSWs' own alcohol use, though. Our results are consistent with a positive relation between primary partner alcohol use and IPV (Zhang et al., 2015) among Chinese FSWs and with those of several studies among non-FSWs (Dunkle et al., 2006; Sabri, Renner, Stockman, Mittal, & Decker, 2014; Weinsheimer, Schermer, Malcoe, Baldof, & Bloomfield, 2005).

Not surprisingly, women who performed sex work more often or felt forced to do sex work had higher odds of abuse by clients, but they were also more likely to report abuse by a primary partner. An abusive primary relationship likely increases FSWs'

vulnerability, including economically, which could lead to more, and more indiscriminate, sex work, increasing chances of abuse by clients (Ulibarri et al., 2014). Conversely, signs of abuse by clients may “out” or reinforce a woman’s FSW status to her primary partner, leading to anger and perhaps abuse on his part. More decision-making power in the primary relationship was related to higher odds of abuse, which is contrary to findings from other research (Muldoon, Deering, Feng, Shoveller, & Shannon, 2015; Ulibarri et al., 2010), although those studies used a different scale and focused on recent abuse only. It is possible that our results indicate that the FSWs in our study paid the price for abuse by standing up for themselves in their primary relationship. Alternatively, as we also found that separated, divorced, or deserted women had the highest odds of lifetime abuse by a primary partner, perhaps the abuse reported was by a previous primary partner, and in their later primary relationship they had found a more equitable relationship.

This study did have some limitations that need to be kept in mind. First, as already noted, this study was a cross-sectional study; hence, we were unable to demonstrate causality. There is, however, wide acceptance of the direction of the relationship from alcohol use to the perpetration of IPV (Foran & O’Leary, 2008). For victims of IPV, longitudinal studies have found evidence of alcohol use being both a cause and consequence of physical abuse (Devries et al., 2014). Second, it is unclear to what extent the study group represented the population of more hidden FSWs in the region. This includes some brothel-based FSWs due to the lack of cooperation by their pimps/madams and home-based women who practiced in private settings and were not connected to the social networks to which we had access. Third, both alcohol use and physical abuse are sensitive topics and susceptible to underreporting, which we sought to reduce by interviewer training focused on listening and nonjudgmental interviewing skills. We believe that despite these limitations, this study provides important data that expand the limited body of research available on Indian FSWs’ experiences of partner abuse and their association with alcohol use by all parties involved.

There are several public health implications of our findings. As also suggested by others (e.g., Beattie et al., 2010; Beattie et al., 2016; Reza-Paul et al., 2012), interventions should take a multifaceted and multilevel approach to addressing violence prevention in the FSW population. One such intervention took place in Andhra Pradesh in 2011-2012 and aimed to reduce work-related violence against FSWs in an HIV prevention context. It included the development of crisis response systems, legal education and aid for FSWs, police sensitization, and media advocacy. There was a postintervention reduction in violence, but no control group was available (India HIV/AIDS Alliance, 2014). A randomized trial evaluating an intervention to reduce violence and increase condom use in FSWs’ primary relationships in Karnataka, South India (Beattie et al., 2016), targeted the FSWs (e.g., personal safety plan) and their primary partners (e.g., one-on-one discussions), including couple counseling. It also trained community-based organizations to respond to IPV and aimed to educate the wider community about IPV (e.g., street plays). We found no published results to date.

Our results suggest that for IPV prevention programs to be successful in FSW populations in South India, it is essential that they address the role of alcohol use by both

FSWs and their primary partners in physical abuse. Not only should the FSWs be targeted with this message, but their partners as well. Several interventions have tried to address primary partners' alcohol abuse and IPV in the same intervention, with varying but often limited degrees of success (Tarzia, Forsdike, Feder, & Hegarty, 2017). Some targeted only the perpetrator, such as teaching him cognitive-behavioral techniques for anger management or cognitive restructuring (Satyanarayana et al., 2016), whereas others involved the rest of the family as well and focused on strengthening family relationships, as well as family members' coping skills and resilience (Chaudhury et al., 2016). In addition to addressing alcohol use itself, FSWs would also benefit from training to bolster their coping skills when faced with the demand from clients to consume alcohol.

Finally, attitudes regarding the acceptability of IPV need to be addressed, not only among FSWs and their various partners but also in Indian society as a whole. The Indian government has taken several initiatives (e.g., the 2005 Protection of Women from Domestic Violence Act) to address the problem of violence against women, but attitudes condoning such violence are slow to change: in 2015-2016, 52% of Indian women and 42% of men still thought wife beating justified under certain circumstances (International Institute for Population Sciences & ICF, 2017b), and it will likely be even longer before a marginalized group such as FSWs will encounter broad support for efforts to curb violence against them (Rao, Horton, & Raguram, 2012; Zhu & Dalal, 2010). Given that FSWs' attitudes toward violence, police harassment, and other barriers often make it unlikely that they report or seek help in cases of abuse (Mahapatra, Battala, Porwal, & Saggurti, 2014), there is a need for structural interventions, such as identifying signs and symptoms of violence during FSWs' medical appointments (Jejeebhoy, Santhya, & Acharya, 2014).

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