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Physical and sexual violence affecting female sex workers in Abidjan, Côte d'Ivoire: Prevalence, and the relationship with the work environment, HIV and access to health services

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Abstract

Background—Violence is a human rights violation, and an important measure in understanding HIV among female sex workers (FSW). However, limited data exist regarding correlates of violence among FSW in Côte d'Ivoire. Characterizing prevalence and determinants of violence and the relationship with structural risks for HIV can inform development and implementation of comprehensive HIV prevention and treatment programs.

Methods—FSW > 18 years were recruited through respondent driven sampling (RDS) in Abidjan, Côte d'Ivoire. In total, 466 participants completed a socio-behavioral questionnaire and HIV testing. Prevalence estimates of violence were calculated using crude and RDS adjusted estimates. Relationships between structural risk factors and violence were analyzed using chi squared tests, and multivariable logistic regression.

Results—Police refusal of protection was associated with physical (adjusted Odds Ratio [aOR]: 2.8; 95%CI: 1.7,4.4) and sexual violence (aOR: 3.0; 95%CI: 1.9,4.8). Blackmail was associated with physical (aOR: 2.5; 95%CI: 1.5,4.2) and sexual violence (aOR: 2.4; 95%CI: 1.5,4.0).

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Physical violence was associated with fear (aOR: 2.2; 95%CI: 1.3,3.1) and avoidance of seeking health services (aOR:2.3; 95%CI:1.5, 3.8).

Conclusions—Violence is prevalent among FSW in Abidjan and associated with features of the work environment. These relationships highlight layers of rights violations affecting FSW, underscoring the need for structural interventions and policy reforms to improve work environments; and to address police harassment, stigma, and rights violations to reduce violence and improve access to HIV interventions.

INTRODUCTION

The structural environment has been identified as an important contextual factor in relation to the health and human rights of female sex workers (FSW).^{1,2} The intersecting economic, physical, policy, and social features of the work environment for FSW impacts their risk of poor health outcomes and human rights violations.¹ In particular and since the beginning of the HIV pandemic, FSW have been shown to have a range of vulnerabilities for HIV acquisition.³ Consequently, FSW have borne a disproportionate burden of HIV, being more than thirteen times more likely to be living with HIV than other women of reproductive age.^{1,3,4} Especially in the context of the more generalized HIV epidemics observed in Sub-Saharan Africa, FSW have consistently had high burdens of HIV. In West and Central Africa specifically, the pooled HIV prevalence among FSW in the region is estimated to be 34.9%.⁵ Within the region of West Africa, the prevalence among reproductive age adults in Côte d'Ivoire has been estimated to be approximately 3.5%, with the burden among FSW observed to be many times higher.^{5,6}

Social and economic features of the work environment of sex work are determinants for both HIV and violence among FSW. Violence influences biological, behavioral, social, and other structural HIV risks among FSW.^{1,3,4,7,8} Studies demonstrate relationships between physical and sexual violence, and HIV incidence.^{1,9} In addition, recent exposure to violence affecting FSW has been shown to be associated with HIV-related biological risks including sexually transmitted infections (STI) symptoms and lesions.⁷ Violence exposure among FSW has also been shown to be associated with HIV risk behaviors such as inconsistent condom use, recent condom failure, and high client volume.^{7,10–12}

Sustained violence is a human rights violation and commonly observed in studies and programs of FSW.^{10,13} Globally, the estimated prevalence of lifetime experience of violence among women of reproductive age ranges from 15–71%.^{14,15} However, the burden of violence against FSW is shown to be even higher than of other women, with prevalence estimates ranging from approximately 40%–75%.⁷ Documented perpetrators of violence against FSW include clients, uniformed police, managers or pimps, and non-paying partners.¹⁶

History of violence among women in Côte d'Ivoire is of particular concern due to the country's recent civil conflict. United Nations Operations in Côte d'Ivoire received reports of violence, with an emphasis on sexual violence, during political conflict in 2002 to 2007, and then again from 2010 to 2011.¹⁷ Limited data exist regarding the history and experience of violence among FSW in Côte d'Ivoire. However, FSW have been shown to experience

poor health outcomes associated with limited access to reproductive health and HIV services including limited contraception, high burden of unintended pregnancies, and low retention of HIV treatment.^{18,19} Although sex work in Côte d'Ivoire is legal, soliciting and pandering are criminalized and create legal barriers to practicing sex work. These barriers reinforce the challenges of policy environments when trying to adequately serve the needs of FSW with evidence-based HIV prevention, treatment, and care services.

Qualitative data have demonstrated structural barriers to safe work environments, faced by FSW globally, however, further quantitative analyses are needed to demonstrate the magnitude of barriers affecting FSW, especially in the context of violence.^{20,21} The objectives of this study are to estimate the prevalence of physical and sexual violence among FSW in Abidjan, Côte d'Ivoire and identify associated structural determinants in the work environment, HIV related outcomes, and experience in accessing health services.

METHODS

Study Population

Participants were recruited through respondent driven sampling (RDS). RDS uses a peer-driven referral chain, which is initiated through a group of recruits, or seeds, who were selected based on specific characteristics of the study population, and who initiate the referral chain. This method is well described elsewhere.^{22,23} RDS involved the use of a primary and secondary incentive, which are described elsewhere.¹⁸

Women qualified for participation if they had a RDS coupon, were 18 years or older, assigned female sex at birth, and engaged in sex work as a primary source of income within the past year. Participants were included in the study if they lived primarily in Abidjan for at least the past 3 months, were capable of providing informed consent, and were able to speak French or English.

Ethical review and approval were provided by Johns Hopkins School of Public Health Institutional Review Board for secondary data analysis and the Comité National d'Éthique et de la Recherche in Côte d'Ivoire.

Procedures and Measures

Data were collected through interviewer-administered questionnaires, and biological HIV testing. Study site selections were based on privacy and accessibility for FSW, and were determined in consultation with the target population. Questionnaires were conducted in a private room, in either French or English, and lasted approximately 60 minutes. All study staff received ethics training prior to conducting interviews.

Physical violence is defined as ever having been violently pushed, shoved, slapped, hit, kicked, choked, or otherwise physically hurt. Sexual violence was defined as ever experiencing forced sex through physical force, coercion, or penetration with an object against one's will. Torture was defined as experiencing any act that was intended to cause severe mental harm and/or severe physical pain.

The structural HIV determinants framework for sex work was used to understand the multilevel risk contexts for HIV unique to FSW.² This framework guided the selection of structural indicators for assessment, focusing especially on the social, physical, policy, and economic features of the work environment.¹ The modified social ecological model was also referenced for HIV risk indicators.²

Structural risk factors were collected as self-reported lifetime experiences. Work-related risks are organized as indicators of local policing practices, coercive sexual risk, and economic features of the work environment. Freedom to end payment-sharing arrangement includes those who reported income sharing with someone who provides a service related to their sex work such as a manager or pimp. All other local policing practices, coercive sexual risk, and economic work environment indicators include all participants.

Health service indicators include HIV testing, HIV status, current engagement in antiretroviral treatment (ART) as well as ever being afraid to seek health services and avoided seeking health services because of potential disclosure of FSW status. HIV positive status represents the results of the Determine Rapid Test conducted during the study visit. All participants who were administered an HIV test received pre and post test counseling.

Statistical Analyses

Demographic characteristics and prevalence of violence are reported in crude numbers and proportions, and RDS adjusted estimates in Tables 1 and 2. Crude estimates represent the numbers and proportions reported from the study sample, and RDS adjusted proportions are estimates of the broader FSW population in Abidjan. RDS adjusted estimates analytically integrate the process for sampling, and the probability of being sampled based on individual network size.

Structural risk factors and violence were evaluated using bivariate logistic regression, and indicators that were significantly associated with a physical or sexual violence were evaluated using multivariable logistic regression. Physical and sexual violence were each evaluated as outcome variables in each model. Demographic characteristics that were significantly associated (p value <0.1) with physical or sexual violence in the bivariate analyses were included in the respective multivariable logistic regression models assessing structural risk factors. The multivariable models included country of birth and education in both the physical and sexual violence assessments.

HIV outcomes, and access to health indicators were evaluated as outcomes against both measures of physical and sexual violence. The multivariable model included country of birth and education in addition to the respective violence predictor variable.

Crude, instead of RDS adjusted estimates were used for all logistic regressions, as a standard for the use of RDS-adjusted estimates in these models is not yet established.²⁴

Model fit was assessed using Pearson's goodness of fit test.

RESULTS

Demographic Characteristics

In total, 466 participants completed the socio-behavioral questionnaire and HIV testing. Demographic characteristics are reported as crude and RDS adjusted estimates in Table 1. The largest age category among participants was 24 to 30. The estimated population prevalence of sexual violence was highest among women who completed some primary school (61.2%; 95%CI: 48.4,72.6).

Sexual and Physical Violence

Crude and RDS adjusted prevalence estimates of physical and sexual violence are presented in Table 2, displaying study sample prevalence and estimated population prevalence. RDS adjusted prevalence of physical violence among FSW in Côte d'Ivoire is 60.6%(95%CI: 53.5,67.2). Of those who experienced physical violence, 71.6% reported violence either after(61.5%; 95%CI: 51.7,70.5), or both before and after(10.2%; 95%CI: 5.7,17.4) initiating practicing sex work. Among FSW who reported physical violence, 84.6% reported experiencing physical violence within 12 months prior to the survey; 80.8%(95%CI: 72.6, 87.0) reported 1 to 5 occurrences, and 3.8%(95%CI: 1.5,9.5) reported 6 to 20 occurrences. Overall, the prevalence estimate of sexual violence among FSW is 44.1%(95%CI: 37.1,51.3).

Among FSW who experienced physical violence in Abidjan, 32.7%(95%CI: 23.9,42.8) reported perpetration by a spouse, boyfriend, or any former or current non-paying sexual partner. Additionally, 24.2%(95%CI: 16.8,33.4) reported perpetration by an occasional or new client, and 13.5%(95%CI: 7.2,23.6) reported perpetration by a uniformed police officer. Among those who reported sexual violence, perpetration by occasional or new clients accounted for the largest proportion, with 37.2%(95%CI: 27.6,47.8), compared with regular clients who accounted for 18.1%(95%CI: 11.8,26.7). Overall, 30.6%(95%CI: 24.5,37.6) of FSW reported use of force or violence by a client to engage in certain types of intercourse to which the FSW did not agree. In total, 17.1%(95%CI: 12.5,22.9) of FSW in Abidjan have experienced torture.

Work Environment: Local Policing Practices, Coercive Sexual Risk, Economic Features, and Associations with Violence

Physical and sexual violence were each assessed for associations with structural determinants within the social and economic work environments (Table 3). Among participants, 24.1%(112/464) reported police refusal to provide protection because of their engagement in sex work. Police refusal of protection was associated with physical (Odds Ratio [OR]: 3.0; adjusted Odds Ratio [aOR]:2.8; 95%CI: 1.7,4.4) and sexual violence (OR: 3.; aOR:3.0; 95%CI:1.9,4.8). Additionally, 31.2%(145/465) of participants reported harassment or intimidation by police which was associated with physical (OR:3.12; aOR: 2.9; 95%CI:1.9,4.4) and sexual violence (OR:1.8; aOR:2.5; 95%CI:1.7,3.9). History of arrest was associated with physical (OR:3.0; aOR:2.8; 95%CI:1.8,4.4) and sexual violence (OR:2.6; aOR:2.6; 95%CI:1.7,4.9).

Overall, 20.8%(97/466) of participants reported blackmail due to their involvement in sex work, and blackmail was associated with physical (OR:2.3; aOR:2.5; 95%CI:1.5,4.2) and sexual violence (OR:2.9; aOR:2.4; 95%CI: 1.5,4.0). Client condom refusal was also associated with physical (OR:1.7; aOR:1.6; 95%CI:1.1,2.3) and sexual violence (OR:3.0; aOR: 2.6; 95%CI:1.7,4.0).

Overall, 80.5%(375/466) of FSW were offered more money to have sex without a condom, which was associated with sexual violence (OR:2.2; aOR:1.8; 95%CI:1.0,3.1). Sharing earnings with someone who provides a service related to sex work was associated with physical (OR:1.8; aOR:1.9; 95%CI:1.3,2.8 and sexual violence (OR:2.2; aOR:2.7; 95%CI: 1.8,4.1). Among those who reported sharing earnings, only 16.9%(48/285) reported being able to end the arrangement without any consequences.

HIV and Access to Health Services, and Associations with Violence

HIV outcomes and access to health services are shown in Table 4. The HIV prevalence among study participants was 11.0% (50/453). Overall, 25.5%(119/466) reported fear of seeking health services and 23.2%(108/466) reported avoiding health services, both due to concern of disclosing engagement in sex work. Physical violence was associated with living with HIV in the crude model until adjusted for demographic characteristics (OR:1.8; aOR: 1.5; 95%CI: 0.8,2.8). Physical violence was associated with fear (OR:2.14; aOR:2.2; 95%CI:1.3,3.1) and avoidance of seeking health services (OR: 2.0; aOR:1.7; 95%CI: 1.1,2.58).

DISCUSSION

Violence affecting FSW in Abidjan, Côte d'Ivoire is common, and severe, with significant numbers experiencing repeated assaults and torture in the previous 12 months. High levels of violence perpetrated by clients, as well as low levels of reported police protection highlights a need for improved work environments for FSW in Côte d'Ivoire. Taken together, these findings suggest multiple levels of barriers FSW experience, limiting the realization of their human rights, especially in the context of HIV prevention and treatment.

FSW in Abidjan experience harassment or intimidation by uniformed officers, both physical and sexual violence perpetrated by uniformed officers, and limited protection by uniformed officers. These data are consistent with other settings where legal barriers exist to practicing sex work, including high levels of discrimination, harassment, blackmail, and violence by uniformed officers.^{1,20,25} Uniformed officer harassment has further been described to increase direct HIV risk through increased sexual risk behaviors, and displacement to hidden and potentially dangerous venues.^{1,20} Uniformed officer perpetration of violence has been associated with increased HIV and STI infection among FSW.⁹ The lack of protection, and limited accountability for assaulting FSW while working has been shown in other studies to increase risk of violence for FSW, especially by clients.^{20,26} Ultimately, policy reforms that remove legal barriers targeting sex work are critical to allowing FSW to realize basic rights and access to police, health, and social protections and to preventing and responding to intimidation, blackmail and violence against FSW. Currently few interventions have been evaluated in reducing violence among FSW, although multilayered approaches combining

police trainings, legal empowerment, community mobilization, and crisis response have shown some potential in reducing violence among FSW.²⁷ Police-sex worker dialogues and sex worker-led interventions in India and other settings have been shown to have significant impact in addressing violence, increasing access to health and police protections, and reducing stigma.^{28,29}

Client perpetration of violence is prevalent among FSW in Côte d'Ivoire, with clients being the most commonly reported perpetrator after non-paying partners. These results are further consistent with high levels of client perpetration of sexual violence observed in The Gambia, Togo, and Burkina Faso, and either physical or sexual violence in China, Uganda, and Moscow.^{9–11,30,31} Coercive sexual risks involving clients including client refusal to use condoms or requesting different sexual practices than negotiated was common in Côte d'Ivoire. Given most interventions focused on FSW include distribution of condoms and counseling about use, these data highlight that without interventions addressing safe working environment and removal of police harassment and intimidation, condom promotion interventions may have limited effectiveness in decreasing HIV-related risks. In an earlier study in Moscow, FSW who have experienced these same coercive sexual risks were shown to be more likely to have HIV or STI infections, reinforcing the relevance to the HIV response.⁹

High prevalence of client perpetration of violence, alongside the unsupportive and coercive local policing practices reported by FSW in Côte d'Ivoire, suggests the need for improved working conditions and legal protections for sex work as part of an effective HIV response. Isolated work location features, such as displacement motivated by avoidance of local police, have been shown to be associated with HIV risks, such as pressure for condomless sex by clients, or rushed condom negotiations with clients.^{12,32} The intersecting influence of limited protection by uniformed officers, and violence or coercive sexual risk relating to clients, is a consideration in the HIV risks among FSW. Violence by clients has been shown to decrease through the establishment of improved workspaces (venues, streets, public spaces).²⁸ Additionally, safe work environments have been shown to reduce inconsistent condom use and HIV incidence through supportive management and venue-based policies.¹ In our study, managerial support decreased odds of violence, further echoing work elsewhere on the importance of social support within work environment venues, while arrangements with constrained economic and/or social control for sex workers were associated with increased violence risks.¹ Modeling conducted by Shannon et al.¹ predicts that 18% of HIV infections among FSW and clients globally could be averted over the next 10 years through safer work environments for sex work, through efforts to reduce violence and condomless sex. The same study found that decriminalization of sex work could have the largest impact on averting HIV infections through removal of police harassment, violence and access to safer work spaces, averting 33–46% of HIV infections over the next decade. These data suggest that without addressing legal barriers and removing harmful policing practices, the ability to scale up coverage of HIV prevention services and access to safer work conditions to address violence and HIV is limited.

In the context of high levels of violence and condomless sex by clients, oral pre-exposure prophylaxis with tenofovir/emtricitabine may represent an important strategy to provide

partial protection from HIV acquisition in these challenging contexts.^{33–37} Separately, presumptive STI testing and even presumptive STI management for FSW and clients should similarly be evaluated in contexts with limited condom use.^{38,39} These data suggest the need to examine community empowerment and peer-led interventions to increase safety in accessing HIV prevention, treatment, and care.

Limitations

Several limitations of this study should be considered. Due to stigma and discrimination, FSW remain difficult to effectively engage in research studies. RDS was used to account for the limited access to the population; however, the results may not represent the individuals less connected to larger networks. Those individuals less connected to the FSW community may be at even greater risk of violence and poor health outcomes, however, their experience may not be represented in this study.⁴⁰ Measurements in this study were self-reported, and may be subject to individual recall bias and/or social desirability bias. As a cross sectional study, these analyses have limited capacity to assess temporality, or proximity of events and therefore limiting causality associated with determinants of sexual violence observed and reported here. Individuals reporting experience of violence prior to initiation of sex work were included in these analyses, and may present some biases in evaluated the relationship between violence and engagement in sex work.

Conclusion

Violence among FSW is highly prevalent in Abidjan, Côte d'Ivoire and linked to features of the work environment. Despite the high risk for violence, HIV, and other negative health outcomes, FSW continue to be marginalized in the HIV response. Therefore, all current and emerging HIV prevention and treatment strategies should be considered ranging from PrEP, HIV self-testing, novel STI testing and management approaches. Due to the social and health-related harms of violence as well as impacts on biological, behavioral, social, and structural risks to HIV, evidence-based and rights affirming violence reduction strategies should be implemented to ensure rights of sex workers to health and police protections and safe work environments.⁴¹ Globally, reductions to legal barriers to engaging in sex work is recommended as an evidence-based strategy to reducing violence and HIV incidence, specifically through the impact of improved consistent condom usage mediated by elimination of police harassment, safer working spaces and accountability for violence affecting FSW.¹ Taken together, these results suggest that effective HIV prevention and treatment interventions serving FSW in Côte d'Ivoire should integrate structural approaches to meaningfully address violence and ultimately improve the working environment of a group of women underserved for so very long.

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Table 1
Demographic Characteristics and Experience of Physical and Sexual Violence of Female Sex Workers in Côte d'Ivoire

	Total				Physical Violence			Sexual Violence		
	N/N	%	N/N	%	Chi squared p value	RDS Adjusted Proportion %	Yes N/N	%	Chi squared p value	RDS Adjusted Proportion
Number of participants	466	100.00	250/466	53.65		60.56	201/465	43.23		44.1
Age, years					0.108				0.65	
18–23	152/466	32.62	71/152	46.71		50.65	63/152	41.45		44.29
24–30	190/466	40.77	107/190	56.32		59.69	87/190	45.79		44.29
31+	124/466	26.61	72/124	58.06		73.22	51/123	41.46		43.63
Country of birth					0.001				0.000	
Côte d'Ivoire	352/466	75.54	202/250	80.80		62.01	194/201	91.54		54.00
Nigeria	107/466	22.96	42/250	16.80		54.11	14/201	6.97		13.07
Other	7/466	1.50	6/250	2.40		88.62	3/201	1.49		18.87
Education					0.078				0.007	
None	78/460	16.96	48/78	61.54		68.75	34/78	43.59		32.99
Some primary	124/460	26.96	73/124	58.87		63.97	65/123	52.85		61.17
Completed primary/some secondary school	228/460	26.96	111/228	48.68		56.12	91/228	39.91		38.14
Completed secondary or post secondary	30/460	6.25	13/30	43.33		48.38	6/30	20		22.8
Marital status					0.332				0.145	
Never married	350/463	75.59	183/350	52.29		57.93	157/349	44.99		45.41
Ever married	113/463	24.41	65/113	57.52		68.06	42/113	37.17		41.33
Employed/student outside of sex work					0.96				0.138	
No	350/466	75.11	188/350	53.71		58.89	144/349	41.26		41.07
Yes	116/466	24.89	62/116	53.45		62.36	57/116	49.14		52.28
Clients in the last month					0.322				0.485	
0–30	241/457	52.74	135/241	54.88		61.00	100/240	50.76		44.59
>30	216/457	47.26	111/216	45.12		61.85	97/216	49.24		49.17

Table 2

Prevalence of Physical and Sexual Violence Against Female Sex Workers in Côte D'Ivoire

	Crude Proportions		RDS Adjusted Proportions	
	N	%	%	95% CI
Physical Violence				
Lifetime experience of physical violence	250/466	53.65	60.56	53.54, 67.16
Before or after initiating practicing sex work				
Before	62/249	24.90	28.39	20.50, 37.87
After	147/249	59.04	61.46	51.66, 70.42
Before and after	40/249	16.06	10.15	5.73, 17.36
Times physically assaulted during the last 12 months among those who were ever physically assaulted				
0	50/248	20.16	15.41	1.974, 23.05
1 to 5	181/248	72.98	80.78	72.57, 86.97
6 to 20	17/248	6.85	3.81	1.477, 9.46
Perpetrator of physical assault among those who were ever physically assaulted				
Regular client	24/250	9.60	9.95	5.73, 16.74
Occasional or new client	65/250	26.00	24.16	16.82, 33.41
Spouse, boyfriend or any non-paying sexual partner (current or former)	72/250	28.80	32.67	23.92, 42.83
Another sex worker	40/250	16.00	15.84	9.593, 25.03
Pimp, boss (involved in sex work)	12/250	4.80	11.51	5.77, 21.65
Uniformed officer	17/250	6.80	13.45	7.24, 23.63
Ever been tortured	76/466	16.31	17.07	12.47, 22.93
Sexual Violence				
Forced to have sex	201/465	43.23	44.10	37.13, 51.31
Before or after initiating practicing sex work				
Before	62/202	30.69	33.42	24.55, 43.65
After	125/202	61.88	57.58	47.01, 67.50
Before and after	15/202	7.43	8.99	4.39, 17.54
Perpetrator of forced sex among those who were ever experienced forced sex				
Regular client	38/202	18.81	18.11	11.81, 26.74
Occasional or new client	85/201	42.29	37.17	27.63, 47.83
Spouse, boyfriend or any non-paying sexual partner (current or former)	51/202	25.25	33.67	23.67, 45.39
Pimp, boss (involved in sex work)	11/202	5.54	10.35	5.33, 19.14
Uniformed officer	12/202	5.94	6.34	3.00, 12.91
Client has ever used violence or force to make FSW have <u>certain types</u> of sexual intercourse when not wanted or agreed upon	144/464	31.03	30.64	24.46, 37.61

Table 3
Correlates of Physical and Sexual Violence against Female Sex Workers in Côte D'Ivoire

	Total			Physical Violence					Sexual Violence					
	N	%		Yes	Crude OR	OR 95%CI	AOR*	AOR 95%CI	Yes	Crude OR	OR 95%CI	AOR**	AOR 95% CI	
	N	%		N	%				N	%				
Local policing practices														
Felt that the police refused to protection because of selling sex	112/464	24.14	82/249	32.93	3.03***	1.90, 4.83	2.75***	1.71, 4.44	72/200	36.00	3.14***	2.01, 4.89	2.98***	1.86, 4.80
Been harassed or intimidated by the police because of selling sex	145/465	31.18	105/250	42.00	3.17***	2.07, 4.81	2.86***	1.85, 4.41	87/200	43.50	1.80***	1.86, 4.19	2.53***	1.68, 3.90
Ever been arrested	123/466	26.39	89/250	35.60	2.96***	1.89, 4.63	2.79***	1.77, 4.41	74/201	36.82	2.62***	1.72, 4.01	2.60***	1.65, 4.90
Ever been to prison	14/464	3.02	10/248	4.03	2.23	0.69, 7.21	-	-	10/199	5.03	3.44**	1.06, 11.13	4.51**	1.23, 16.46
Coercive Sexual Risk														
Been blackmailed because of selling sex	97/466	20.82	70/250	28.00	2.27***	1.67, 4.44	2.53***	1.53, 4.19	62/201	30.85	2.92***	1.83, 4.65	2.43***	1.49, 4.00
Number of partners who came for sex was more than the number discussed beforehand	119/466	25.54	83/250	33.20	2.45***	1.59, 3.87	2.41***	1.52, 3.83	86/201	42.79	5.23***	3.31, 8.29	4.61***	2.84, 7.49
Client accepted using a condom and then removed it or declined later	270/466	58.19	160/249	64.26	1.72***	1.18, 2.49	1.57**	1.07, 2.31	146/200	73.00	3.03***	2.04, 4.50	2.61***	1.72, 3.96
Economic Work Environment														
Been offered more money to have sexual intercourse without a condom	375/466	80.47	206/250	82.40	1.30	0.82, 2.06	-	-	175/201	87.06	2.20**	1.34, 3.62	1.77**	1.02, 3.05
Share earnings with someone who provides a service related to sex work	285/466	61.16	181/250	72.98	1.80***	1.23, 2.62	1.90**	1.29, 2.81	144/201	71.64	2.20***	1.49, 3.26	2.72***	1.78, 4.14
Free to end this arrangement or stop paying this person														
No	144/284	40.14	81/169	47.93	0.68**	0.49, 0.94	0.65**	0.46, 0.92			1.16	0.84, 1.61	-	-
Yes with consequences	122/284	42.96	60/169	35.50										
Yes without consequences	48/284	16.90	28/169	16.57										

* <0.10

Physical violence outcome: adjusted for country of birth and level of education
Sexual violence outcome: adjusted for country of birth and level of education
- Not assessed in multivariable logistic regression

10.0>

50.0>
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Table 4

- Not assessed in multivariable logistic regression