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Factors associated with the perpetration of sexual violence among wine-shop patrons in Chennai, India

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Abstract

With an estimated 2.5 million people living with HIV/AIDS, India has the third highest number of HIV-infected people in the world. Despite reductions in prevalence among the general population, the percentage of all infections occurring among Indian women is continuing to rise. Women's risk of HIV infection from their partner and observed associations between sexual violence and HIV infection in India underscore the importance of understanding determinants of forced sex. A probability survey was conducted from June 2003 to August 2007 in Chennai, India among alcohol venue ("wine shops") patrons to estimate the prevalence of sexual violence and to identify risk factors associated with perpetrating forced sex. Among 1499 men, 28.5% reported forced sex with at least one partner in the past 3 months. In multivariate analysis, earning income for less than 12 months a year, visiting the wine shop with friends, STD symptoms, perpetration of physical violence, and number of sexual partners were statistically significantly associated with perpetrating forced sex. Men who reported having 3 or more close friends were less likely to perpetrate violence. HIV interventions that facilitate formal groups that foster positive social support and address a range of HIV risk behaviors including sexually and physically abusive behaviors are recommended to reduce sexual violence.

Keywords

India; Violence; Women; Perpetrators of violence; Sexual abuse; HIV; alcohol

INTRODUCTION

Violence against women is increasingly recognized as a significant global health problem. In addition to adverse physical, mental, and reproductive health outcomes (J. C. Campbell, 2002; J. C. Campbell, Baty, Ghandour, Stockman, Francisco, & Wagman, 2008; Ellsberg, Jansen, Heise, Watts, & Garcia-Moreno, 2008; Heise, Ellsberg, & Gottemoeller, 1999; Heise, Pitanguy, & Germain, 1994; Moore, 1999), studies have shown that physical (Dunkle, Jewkes, Brown, Gray, McIntyre, & Harlow, 2004; Jewkes, Dunkle, Nduna, Levin, Jama, Khuzwayo et al., 2006; Maman, Mbawambo, Hogan, Kilonzo, Campbell, Weiss et al., 2002; van der

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Straten, King, Grinstead, Vittinghoff, Serufilira, & Allen, 1998) and sexual (J.C. Campbell et al., 2008) violence are strongly associated with HIV/AIDS. Sexual violence is one of the most common forms of violence against women (Du Mont & McGregor, 2004); globally, approximately one woman in four experiences sexual violence by an intimate partner in her lifetime (World Health Organization, 2002). Sexual violence is influenced by socio-cultural contexts, and rates vary widely by country. A multi-country study conducted in ten economically and culturally diverse countries found that between 4% (Japan) and 53% (Ethiopia) of women reported experiencing physical and sexual violence by an intimate partner in the past year (World Health Organization, 2005). In India, high rates of intimate partner violence have been consistently documented (Jeyaseelan, Kumar, Neelakantan, Peedicayil, Pillai, & Duvvury, 2007; Rao, 1997; Silverman, Decker, Saggurti, Balaiah, & Raj, 2008; Varma, Chandra, Thomas, & Carey, 2007). Over 35% of married women reported lifetime intimate partner violence in a recent national survey (Silverman et al., 2008), and among sex workers in Chennai, 63% reported experiencing forced sex in the past three months (V.F. Go, Srikrishnan, Parker, Salter, Green, Sivaram et al., In Press).

With an estimated 2.5 million people living with HIV/AIDS, India has the third highest number of HIV-infected people in the world and more than 80% of South Asia's infected population (National AIDS Control Organization, 2008). Despite recent reductions in prevalence among both the general population and many high risk groups, the percentage of all infections occurring among Indian women has continued to rise (National AIDS Control Organization, 2008; World Bank, 2005). Heterosexual sex is estimated to account for 86% of all new HIV-1 infections in India (Bhattacharya, 2004; Solomon, Buck, Chaguturu, Ganesh, & Kumarasamy, 2003). Recent studies have found that the vast majority of HIV-positive women in India are married and monogamous and are infected through unprotected sex with an infected spouse (Gangakhedkar, Bentley, Divekar, Gadkari, Mehendale, Shepherd et al., 1997; Godbole & Mehendale, 2005; Mehta, Gupta, Sahay, Godbole, Joshi, Reynolds et al., 2006; National AIDS Control Organization, 2008; Newmann, Sarin, Kumarasamy, Amalraj, Rogers, Madhivanan et al., 2000). Among female sex workers (FSWs), the prevalence of HIV is high (16%) (Chandrasekaran, Dallabetta, Loo, Rao, Gayle, & Alexander, 2006), and associations between HIV risk and sexual violence among FSWs have been observed (Singh, Kananbala, Thongam, Devi Kh, & Singh, 2005). In West Bengal, HIV positive status was significantly associated with sexual violence among FSWs (Sarkar, Bal, Mukherjee, Chakraborty, Saha, Ghosh et al., 2008). Less is known about sexual violence among unmarried women in India although studies conducted in Africa have found that unmarried women who are in casual partnerships are more likely to experience sexual violence and that sexual violence in this population is strongly associated with HIV risk factors (Jewkes et al., 2006). Women's risk of HIV infection from their partner, combined with their vulnerability to sexual violence, underscores the importance of understanding forced sex in all segments of the female population in India.

While existing literature on the contexts of women who experience violence is extensive (Ellsberg et al., 2008; Garcia-Moreno, Jansen, Ellsberg, Heise, & Watts, 2006; Jewkes et al., 2006; Jeyaseelan et al., 2007; Silverman et al., 2008), few studies have focused on the men who perpetrate violence. Furthermore, most studies on intimate partner violence have assessed physical violence with limited investigations of sexual violence (Abrahams & Jewkes, 2005; Gupta, Silverman, Hemenway, Acevedo-Garcia, Stein, & Williams, 2008). Studies of men's sexual violence towards women have primarily been conducted in developed countries among college students or men in treatment programs (Leonard & Blane, 1992; Murphy, Meyer, & O'Leary, 1993; Neidig, Friedman, & Collins, 1986; Pan, Neidig, & O'Leary, 1994), which limits their generalizability to developing world settings. Notable exceptions include a few studies conducted in India and South Africa (Abrahams, Jewkes, Hoffman, & Laubsher, 2004; Koenig, Stephenson, Ahmed, Jejeebhoy, & Campbell, 2006; Martin, Kilgallen, Tsui, Maitra, Singh, & Kupper, 1999a).

These studies have identified a series of individual level factors that are associated with an increased risk of sexual violence against women including alcohol consumption, which may trigger or predispose one to violence; extramarital sex, which may reflect an inability to maintain intimate relationships; poverty; and lower education. Associations between lower socioeconomic status and sexual violence can be understood within the context of Cosner's structural theory (1967), which proposes that violence is more pervasive among families in lower social positions because they suffer more frustrations and blocked goals than families higher on the social ladder. Indeed, our previous qualitative study in low-income slums of Chennai (V.F. Go, Johnson, Bentley, Sivaram, Srikrishnan, Celentano et al., 2003) identified concerns about finances and health as triggers of intimate personal violence.

In addition to individual level factors, the social context within which an individual acts can also have an impact on the perpetration of violence. The presence of support networks can enhance self-esteem and provide practical assistance and protection against intimate partner violence for women (Clark, Silverman, Shahrouri, Everson-Rose, & Groce, 2010), while a family's social isolation appears to be associated with a greater risk of wife abuse (Fagan & Browne, 1994; Tilley & Brackley, 2005). Little is known, however, about the impact of social isolation or social network factors on the perpetrators of sexual violence. Studies among juvenile offenders provide evidence that those offenders who are sexually violent are more likely to report peer or social isolation than other offenders (Miner & Munn, 2005; Valliant & Bergeron, 1997). Furthermore, when individuals have weak ties with one another (Ross & Jang, 2000) or low social capital, peers may have greater tolerance of undesirable behaviors and the community may fail to serve as an effective agent of social control (Sampson & Raudenbush, 1999). Conversely the peers of men who perpetrate violence may accept and condone sexual violence (DeKeseredy & Schwartz, 1998; Raghavan, Rajah, Gentile, Collado, & Kavanagh, 2009). In the US, university students who report violent social networks were more likely to use violence against intimate partners (Raghavan et al., 2009), and in a qualitative study among young males in New England, Reed et al. (2008) found that a peer group's support of violence towards women contributed to an individual's perpetration of violence. Social learning theory (Bandura, 1973) proposes that human behavior is learned through modeling and that a greater affiliation with a modeling source is associated with a stronger effect. Thus, male networks that perpetrate violence against women may contribute to norms that legitimize abuse.

We hypothesize that both individual factors including lower socio-economic status, health concerns, sexual risk behaviors such as multiple partnerships and unprotected sex, and increased alcohol consumption, as well as social network factors, such as social isolation, poor social capital, or type of network may be associated with the perpetration of intimate partner violence. Our study objectives were to estimate the prevalence of sexual violence perpetration by male patrons of wine shops in slums of Chennai, India and to identify individual and social network factors associated with perpetrating forced sex.

METHODS

This study was conducted in Chennai, the capital of Tamil Nadu State in southern India, between June 2003 and August 2007 as part of the National Institute of Mental Health (NIMH) Collaborative HIV/STD Prevention Trial that was conducted in five countries. The trial design and methods have been detailed elsewhere (National Institute of Mental Health, 2007a). Briefly, a two-arm cluster randomized, community-level trial was conducted to evaluate the efficacy of a behavioral intervention based on the Diffusion of Innovations theory (Rogers, 1995). Specifically, Community Public Opinion Leaders (C-POLs) were trained to disseminate HIV prevention messages within venues that were social congregating points for high-risk

populations in each country (van Griensven & Kalichman, 2007). To evaluate the intervention, participants were assessed at baseline and at 18 and 30 months after baseline.

Venue selection and Study Population

In Chennai, wine shops in low-income slum communities were selected as venues for the intervention based on exploratory epidemiological studies demonstrating that they were loci of populations at high risk of HIV infection (V. F. Go, Solomon, Srikrishnan, Sivaram, Johnson, Sripaipan et al., 2007; National Institute of Mental Health, 2007a, b). Slums are low-income public housing units, and wine shops are establishments that sell distilled spirits and beer to be consumed on site or on a take-out basis. A cluster of four or five wine shops within a given slum defined a study venue in India, and a total of 24 venues were selected based on specified venue selection criteria. The venues were pair-matched and randomized; for each of the 12 matched pairs, one venue was randomly assigned to the intervention arm and the other to the comparison arm.

Participants were recruited using systematic random sampling in the venue. To be eligible, participants had to be 18–40 years of age, patronize wine shops at least thrice weekly, anticipate living in Chennai in the next year, and be capable of providing voluntary informed consent at the time of the interview.

Data collection

Trained research staff collected behavioral and biological data from participants at baseline, and at 18 and 30 months after baseline. Participants were offered free transportation to an assessment site with private, soundproofed rooms. Interviewers administered a 30-minute standardized behavioral risk assessment questionnaire in Tamil using computer-assisted personal interviewing (CAPI). The survey included questions to assess socio-demographics, economic and residential stability, interpersonal communications, health status, alcohol use, sexual and drug use histories and behaviors, HIV testing history, and STD symptoms. At the 30-month assessment in 2006, we included an additional one-time cross-sectional assessment of perpetration of physical and sexual violence against women. Our addition of violence variables at the 30 month assessment stemmed from a parallel research effort we were conducting among sex workers associated with targeted wine shops (Panchanadeswaran, Johnson, Sivaram, Srikrishnan, Zelaya, Solomon et al., In Press). The high prevalence of intimate partner violence reported among sex workers prompted us to include additional questions in an effort to understand the factors associated with perpetration of violence. The analyses reported here are based on data from this assessment.

The research protocol, questionnaire, and consent forms were reviewed and approved by several ethical review committees: Indian Council on Medical Research, YRG CARE IRB, the Johns Hopkins Bloomberg School IRB, the IRB at Research Triangle Institute, and the National Institutes of Health's Office for Protection from Research Risks.

Outcome and Risk Factors

The outcome variable was “forced sex” with at least one partner (out of up to 5 partners) in the past 3 months. We collected information on the 5 most recent partners with the goal of providing sufficient depth on sexual histories while minimizing the possibility of recall inaccuracies. Collecting data on the most recent 3–5 partners is recommended as an appropriate measure of concurrent sexual partnerships (UNAIDS Reference Group on Estimates, Modelling, and Projections: Working Group on Measuring Concurrent Sexual Partnerships, 2010).

To measure perpetration of forced sex we asked “In the last 3 months, did you force your sex partner to have sex?” This was followed-up with an interview probe: “By force, I mean you

had sex when your partner did not want to but was afraid to refuse.” Within our definition, “force” could include threats, verbal pressure and/or physical force. Sex was defined in our survey as either vaginal or anal penetrative sex, and these terms were described in the preamble to the section on sexual behavior.

We assessed forced sex for up to the 5 most recent partners (regular, casual, and commercial in the past 3 months). To limit recall bias in the overall trial, participants were asked about forced sex behavior during the 3 months before each assessment. Whereas long retrospective intervals (e.g. 12 months) may lead to unreliable data, low frequency behaviors may not occur during short recall windows. Three to six months has been suggested as a relatively reliable recall period (NIMH Collaborative HIV/STD Prevention Trial Group, 2007).

We restricted our analysis to the 1499 men who had a sexual partner in the past 6 months, who were not CPOLs ($n = 67$), and who were not in venues affected by the 2004 tsunami ($n = 4$ venues).

The risk factors of interest included: socio-demographics (age, marital status, years of education completed, number of months a year earn income, number of children); alcohol use (number of days drink per month); health concerns (self reported health status [excellent, good, fair, poor], number of times seen a doctor or health care provider for any health-related problem, went to pharmacy for medicine or treatment for any health problem) in the past 6 months; STD symptoms (self reported painful urination, genital discharge, or genital ulcers) in the past 6 months; sexual behaviors (number of sex partners, unprotected sex with non-spouse/live-in partner) in the past 6 months; social isolation (number of close friends); social capital (number of formal and informal groups, trust and solidarity in the community); and type of social network (visit wine shops with friends).

We measured health concerns through three distinct variables: self-reported health status, visits to a doctor or health care provider for health-related problem and visits to a pharmacy for health related problem. These three variables were neither highly correlated (range: .14–.43) nor collinear (Variance Inflation Factor < 5 for all). To operationalize social network factors, including social capital, social isolation and type of social networks, we drew from existing measurements (Dudwick, Kuehnast, Jones, & Woolcock, 2006) and adapted them using ethnographic data we collected in our study population. Key dimensions that have been identified as useful measures of social networks include group affiliation, trust, and social inclusion (World Bank). We measured social capital by asking about affiliation with groups and trust within communities. Participants were asked about the “groups or organizations, networks, or associations to which you or any member of your household belong” and then asked if these groups were “formally organized, or just informal groups where people get together regularly to do an activity or talk about things.” To assess trust and solidarity in the community, participants were asked if “most people in your community can be trusted or do you have to be very careful in dealing with people” (World Bank, 2009). To measure social isolation, participants were asked how many close friends they had, where “close friends” was defined as “people you feel at ease with, can talk to you about private matters, or call on for help.” As a measure of type of social networks, participants were asked if they visited wine shops with friends.

Statistical Analysis

Characteristics of men who did and did not force sex on their partner were initially compared using chi-squared tests for categorical variables and Mann Whitney tests for continuous variables. In order to identify covariates that were independently associated with forced sex, we used multivariate Poisson regression with robust variance estimation. Poisson regression was used instead of logistic regression because the prevalence of the outcome was 28.5%, and

Poisson regression allows for direct estimation of prevalence ratios (Behrens, Taeger, Wellmann, & Keil, 2004; Spiegelman & Hertzmark, 2005). Potential correlates were first assessed for association with forced sex in univariate models. Multivariate models included all covariates associated with forced sex at the level of $p \leq 0.10$ in univariate analysis as well as those hypothesized to be associated with forced sex regardless of statistical significance. Interactions were examined on the basis of previous literature and a priori hypotheses by including product terms in regression models. To distinguish between the influence of different types of friends (e.g., drinking buddies vs. other friends) (Raghavan et al., 2009; Reed et al., 2008), we explored potential interaction between the number of close friends and visiting a wine shop with friends. As has been suggested, marital status and number of sexual partners could potentially modify associations between the covariates and perpetration of forced sex (Dunkle, Jewkes, Nduna, Jama, Levin, Sikweyiya et al., 2007; Martin et al., 1999a; Raj, Santana, La Marche, Amaro, Cranston, & Silverman, 2006; Silverman, Decker, Kapur, Gupta, & Raj, 2007); therefore, we also explored the potential interactions between marital status and number of sexual partners and each covariate in the model. Generalized Estimating Equations were used in all analyses to control for intra-slum correlations, and all analyses were conducted using STATA software version 9 (College Station, TX).

RESULTS

Among 1499 men who had a sexual partner in the past 6 months, 28.5% reported having forced sex with at least one partner in the past 3 months. The mean age of participants was 32.8 (SD = 5.75), and 85% were married or living with a partner (Table 1). About three-fourths of participants had less than 10 years of education, with 10% reporting no education. Twenty-two percent earned income for less than 12 months a year, and 75% had at least one child. Nearly one-third of participants consumed 21–30 alcoholic beverages a month. In terms of social capital and social isolation, although two-thirds of the participants did not belong to a formal or an informal organization, about one third reported four or more close friends (Table 2). More than half ($n = 829$) felt that people in the community could not be trusted.

Among the 427 participants who reported perpetrating forced sex, 86% had forced sex with one partner, and 14.3% had forced sex with two partners (data not shown). Among those reporting only one partner, the large majority had forced sex with a spouse or live-in partner (88.4%), followed by a girlfriend (6%) and a commercial sex worker (2.4%). Among those reporting two or more partners, 40.9% reported forced sex with a spouse or live-in partner, 14.8% with a girlfriend, and 7.95% with a casual partner (Table 3). Among participants who report two or more partners and report that at least one partner was a spouse/live-in partner ($n=248$), 40.3% had forced sex with a spouse/live-in partner, 21% had forced sex with a non-spouse/non-live-in partner, and 11.3% had forced sex with both a spouse/live-in partner and a non-spouse/non-live-in partner ($p = .025$) (Table 4). These results suggest that forcing sex with one s spouse/live-in partner is associated with forcing sex with a non-spouse/non-live-in partner.

In univariate analysis, earning income less than 12 months a year, visiting a wine shop with friends, STD symptoms in the last 6 months, perpetration of physical violence in the last 6 months and having 2 or more sexual partners in the last 6 months were associated with an increased likelihood of perpetrating forced sex (Table 5). In addition, compared with those who had fewer friends, persons who reported 3 or more close friends were less likely to force sex. As none of the three health concern variables were associated with the outcome in univariate analysis ($p > .05$ for all), they were not included in a multivariate model.

In multivariate analysis, earning income less than 12 months a year (PR: 1.30, 95% CI, 1.09, 1.55), visiting the wine shop with friends (PR: 1.52, 95% CI, 1.14, 2.04), STD symptoms (PR:

1.40, 95% CI, 1.16, 1.70), perpetration of physical violence (PR: 1.38, 95% CI, 1.09, 1.75), number of close friends (3 friends-PR: 0.61, 95% CI, 0.46, 0.80; 4 friends-PR: 0.62, 95% CI, 0.45, 0.85; reference = 0 friends), and number of sexual partners (PR: 1.87, 95% CI, 1.58, 2.20) remained statistically significant in the final model (Table 5). Feeling that the people in the participant's community could not be trusted and having sought treatment at a pharmacy in the last 6 months were not statistically significant after inclusion of the other factors. No interactions were found to be statistically significant.

DISCUSSION

Our study builds on previous research on sexual violence in India and makes several new contributions towards understanding the corollaries of sexual violence in men. Perpetration of sexual violence was common in our population, with 29% of men reporting forced sex in the past 3 months. Although direct comparisons are difficult due to variations in definitions and timeframes, the proportion appears comparable to other studies among men in India: 30% (Koenig et al., 2006) and 29% (Martin et al., 1999a) in the past year and lifetime, respectively. In our study, men who reported hitting, kicking, or pushing their wife/partner in the past 6 months were more likely to perpetrate sexual violence, supporting the idea that abusive men are often abusive in more than one way (Martin, Tsui, Maitra, & Marinshaw, 1999b).

Similar to other studies in the US, Nicaragua, and India that showed an association between low income and violence (Bachman & Saltzman, 1995; Ellsberg et al., 2008; Gelles & Straus, 1998; Hotaling & Sugarman, 1986; Martin et al., 1999b) and unstable employment and violence (Krishnan, Rocca, Hubbard, Subbiah, Edmeades, & Padian, 2010), our study found that men who earned an income less than 12 months a year were more likely to perpetrate violence. This finding supports Cosner's structural theory of violence, which purports that violence is more likely in families of lower socioeconomic status (Cosner, 1967; Gelles, 1974). Associations between sexual violence and unstable income may be mediated through frustration and financial stress, which may be aggravated among poorer men with limited resources.

In our study, having more than one current sex partner and self-reported STD symptoms were associated with sexual violence, corroborating findings from other studies that have found that abusive men report higher levels of STD sexual risk behaviors (Dunkle et al., 2007; Martin et al., 1999a; Raj et al., 2006; Silverman et al., 2007) and STDs (Martin et al., 1999a). Further research is needed to clarify if sexual violence is a marker for sex with a potentially high-risk partner (Dunkle, Jewkes, Nduna, Levin, Jama, Khuzwayo et al., 2006; el-Bassel, Fontdevila, Gilbert, Voisin, Richman, & Pitchell, 2001; Gilbert, El-Bassel, Wu, & Chang, 2007; Martin et al., 1999a; Peedicayil, Sadowski, Jeyaseelan, Shankar, Jain, Suresh et al., 2004; Raj et al., 2006; Schensul, Mekki-Berrada, Nastasi, Singh, Burleson, & Bojko, 2006; Silverman et al., 2007), or if sexual violence increases risk of STDs through unprotected forced sex (Decker, Miller, Kapur, Gupta, Raj, & Silverman, 2008; Raj et al., 2006), or both.

Our study underscores the potentially positive role of social connection in the context of sexual violence among men. Specifically, we found that men who reported three or more close friends were less likely to perpetrate violence. For men, social connection may mitigate financial and mental stress and may discourage negative behaviors. In addition, men who are more socially isolated and who perpetrate sexual violence may have fewer friends because they are violent or aggressive in multiple domains. Interestingly, we found that men who visit wine shops with friends are more likely to be sexually violent. Our earlier qualitative study described men who would drink together and then engage in gang rape or other sexually risky behavior, and previous research has highlighted the negative impact of some male social networks (Raghavan et al., 2009; Reed et al., 2008). In contrast to "close friends" who can provide a more appropriate

and positive outlet for stress, “drinking buddies” may provide a social network that models or condones sexual violence.

Two important dimensions of social capital, “feeling that the people in the participant s community could not be trusted” and “membership in formal and informal groups” were not statistically significantly associated with sexual violence in our study. Upon further analysis, we found that the associations between these variables and perpetration of forced sex were confounded by “number of close friends.” Thus, these particular measures may be less relevant to individuals who perpetrate violence and who are responding to more proximal social cues, such as close friends. The many facets of social capital and how they affect individuals need additional study in different settings.

Several limitations of our study should be noted. First, the cross-sectional nature of the study prevents us from establishing temporal ordering between sexual violence and our independent variables. In addition, we rely on self-reported behavior from our participants, who may under-report violent behavior. However, the finding that the prevalence of sexual violence reported in our study is comparable or higher to those observed in previous surveys of women in India (Koenig et al., 2006; Martin et al., 1999a) supports the validity of our findings. Finally, because our participants were sampled from wine-shops, conclusions and recommendations may be applicable to wine-shop clients in other slum dwelling communities in Chennai and in Southern India, but may not be broadly generalizable. Prospective studies and studies that extend beyond wine-shops and slums are needed to establish causality between sexual violence and our independent variables and to determine applicability to a broader population.

Findings from our study suggest, however, that perpetration of sexual violence is complex and reflects both individual and community factors. Multi-level, multi-sectoral approaches are needed to change social norms that support the perpetration of sexual violence and to encourage policies that actively address the pervasiveness of sexual violence within this Indian context. In the shorter term, programs that provide opportunities for men to foster close friendships, expand their positive social networks, and experience positive modeling with respect to sexual violence and HIV/AIDS prevention are needed. An example of such a program, The Stepping Stones project (Jewkes, Nduna, Levin, Jama, Dunkle, Puren et al., 2008) in South Africa, used small group sessions to improve sexual health and incorporated participatory learning approaches to build knowledge and risk awareness and communication skills and to simulate critical reflection. The intervention was effective in lowering the proportion of men reporting perpetration of violence with an intimate partner. In India, small groups have increasingly become key facilitators in the success of public health initiatives. For example, Polio Plus campaigns rely on community effort and trust in community educators to motivate and support mothers to get their children vaccinated (Balraj, Mukundan, Samuel, & John, 1993). A similar initiative in Uganda, The AIDS Support Organization, began as a community-based peer support campaign and has become a dominant national force against HIV/AIDS (Rwemisisi, Wolff, Coutinho, Grosskurth, & Whitworth, 2008).

The links between intimate partner violence and HIV/AIDS among women have been well documented and may occur through increased sexual risk taking in women with a history of sexual abuse in childhood or adolescence, forced sex with an infected partner, and women s inability to negotiate condom use (Maman, Campbell, Sweat, & Gielen, 2000). Less is known about the link between sexually violent males and HIV/AIDS. While more research is needed to untangle the relationship between sexual abuse, sexual risk behaviors, and HIV/AIDS among men, our study suggests men who are more sexually abusive may tend to be sexually active with multiple partners and that these high risk sexual activities may have resulted in STD infection. Rather than targeting this high risk group in the context of sexual violence alone,

HIV interventions might address a range of HIV risk behaviors that includes the non-normative nature of both sexually and physically abusive behaviors.

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Table 1

Socio-demographic and behavioral characteristics of men in wine shops in Chennai, India (n = 1499)

	Number of men reporting forced sex in past 3 months		
DEMOGRAPHICS	No 1070 (71.5%)	Yes 427 (28.5%)	χ^2 p-value
Age Category			
20–24	73 (6.82)	34 (7.96)	0.03
25–29	273 (25.5)	101 (23.7)	
30–34	288 (26.9)	132 (30.9)	
35–39	230 (21.5)	104 (24.4)	
40–43	206 (19.3)	56 (13.1)	
Marital Status			
Married/live with partner	916 (85.5)	362 (84.8)	0.74
Single, divorced, widowed, separated	156 (14.6)	65 (15.2)	
Children			
0	253 (23.6)	94 (22.1)	0.93
1	156 (14.6)	66 (15.5)	
2	413 (38.5)	170 (40.0)	
3	198 (18.5)	74 (17.4)	
4+	52 (4.85)	21 (4.94)	
Years of Education			
10+	285 (26.6)	115 (26.9)	0.03
6–9	417 (38.9)	148 (34.7)	
1–5	282 (26.3)	108 (25.3)	
0	88 (8.21)	56 (13.1)	
No. months a year earn income			
12 months	860 (80.2)	309 (72.4)	0.00
<12 months	212 (19.8)	118 (27.6)	
ALCOHOL USE			
Number of drinks per month			
0–30	123 (11.9)	40 (9.70)	0.37
31–60	349 (33.7)	139 (33.7)	
61–90	204 (19.7)	73 (17.7)	
91–480	361 (34.8)	160 (38.8)	
Visit wine shops with friends			
No	291 (27.2)	79 (18.5)	0.00
Yes	781 (72.9)	348 (81.5)	
HEALTH			
Health Status			
Excellent	320 (29.9)	135 (31.6)	0.16
Good	558 (52.1)	197 (46.1)	

	Number of men reporting forced sex in past 3 months		
DEMOGRAPHICS	No 1070 (71.5%)	Yes 427 (28.5%)	χ^2 p-value
Fair	186 (17.4)	91 (21.3)	
Poor	8 (0.75)	4 (0.94)	
Painful urination, genital discharge or ulcers in last 6 months			
No	975 (91.0)	350 (82.0)	0.00
Yes	97 (9.05)	77 (18.0)	
No. of sex partners in last 6 months			
1	849 (79.5)	251 (58.8)	0.00
2+	223 (20.8)	176 (41.2)	
Perpetrate physical violence in last 6 months			
No	788 (73.5)	274 (64.2)	0.00
Yes	284 (26.5)	153 (35.8)	

Table 2

Social isolation and social capital among men in wine shops in Chennai, India (n = 1499)

	Any forced sex with one or more partners in last 3 months		
	No	Yes	χ^2 p-value
GROUPS & NETWORKS			
Number of informal and formal groups			
0	712 (66.4)	288 (28.8)	0.17
1	300 (28.0)	125 (29.4)	
2+	60 (5.60)	14 (18.9)	
Number of close friends			
0	143 (13.3)	77 (18.0)	0.01
1–2	323 (30.1)	148 (34.7)	
3–4	228 (21.3)	73 (17.1)	
5+	378 (35.3)	129 (30.2)	
TRUST & SOLIDARITY			
Can people in the community be trusted?			
People can be trusted	503 (46.9)	167 (24.9)	0.01
Must be careful	569 (53.1)	260 (31.4)	

Table 3

Type of partner upon whom sex was forced by men in wine shops in Chennai, India (n=427)

	Number (%) who experienced forced sex	
	Among men reporting only 1 partner	Among men reporting 2 or more partners
Spouse/Live-in Partner Only	222 (88.4)	66 [*] (37.5)
Girlfriend Only	15 (6.00)	26 (14.8)
Casual Partner Only	5 (2.00)	14 (7.95)
Commercial Sex Worker Only	6 (2.40)	7 (4.00)
Other Only	3 (1.20)	2 (1.14)
More Than One Partner	NA	61 [†] (34.7)
Total	251 (100)	176 (100)

^{*} Among the 66 who have 2 or more partners and report forcing sex upon only one spouse/live-in partner, 7 reported having 2 spouses/live-in partners.

[†] Among the 61 who report forcing sex upon more than one partner, 6 reported forcing sex upon two wives.

Table 4

Relationship between forcing sex with a spouse/live-in partner and a non-spouse/non-live-in partner among men who report two or more partners (n=248)_

	Force sex with spouse/live-in partner (n %)		Chi ² p-value
Forced sex with non- spouse/non-live-in partner	No	Yes	
No	124 (83.8)	72 (72.0)	0.025
Yes	24 (16.2)	28 (28.0)	
Total	148	100	

Table 5

Factors associated with forced sex in Poisson regression analysis among men in wine shops in Chennai, India (n = 1499)

	Unadjusted PR [†] (95% CI)	Adjusted PR (95% CI)
Age	0.99 (0.98–1.00)	
Marital Status		
Married/live with partner	ref	
Single, divorced, widowed, separated	1.05 (0.86–1.27)	
Children		
0	ref	
1	1.09 (0.86–1.39)	
2	1.08 (0.92–1.27)	
3	0.99 (0.79–1.25)	
4+	1.06 (0.81–1.40)	
Years of Education		
10+	ref	
6–9	0.90 (0.75–1.08)	
1–5	0.97 (0.80–1.17)	
0	1.37 (1.04–1.81)*	
Income per year		
12 months	ref	ref
<12 months	1.38 (1.17–1.63)*	1.30 (1.09–1.55)*
Number of drinks per month		
0–30	ref	
31–60	1.13 (0.82–1.55)	
61–90	1.07 (0.78–1.46)	
91–480	1.24 (0.90–1.70)	
Visit wine shop, come with friends		
No	ref	ref
Yes	1.44 (1.06–1.95)*	1.52 (1.14–2.04)*
Health Status		
Excellent	ref	
Good	0.88 (0.74–1.04)	
Fair	1.11 (0.88–1.41)	
Poor	1.11 (0.52–2.38)	
Painful urination, genital discharge or ulcers in last 6 months		
No	ref	ref
Yes	1.68 (1.42–1.99)*	1.40 (1.16–1.70)*
Last 6 months go to pharmacy for Rx or treatment		

	Unadjusted PR [†] (95% CI)	Adjusted PR (95% CI)
No	ref	
Yes	1.27 (0.99–1.62)	
Number of close friends		
0	ref	ref
1–2	0.89 (0.68–1.17)	0.77 (0.62–0.95)*
3–4	0.69 (0.51–0.94)*	0.61 (0.46–0.80)*
5+	0.73 (0.49–1.08)	0.61 (0.45–0.84)*
Can people in the community be trusted		
People can be trusted	ref	
Must be careful	1.25 (0.99–1.60)	
No. of sexual partners in last 6 mo.		
1	ref	ref
2+	1.93 (1.60–2.34)*	1.87 (1.58–2.20)*
Perpetrate physical violence in last 6 months		
No	ref	ref
Yes	1.34 (1.05–1.73)*	1.38 (1.09–1.75)*

[†]PR- prevalence ratio

* Statistically significant at the $p \leq 0.05$ level.