

the cervicovaginal epithelium, vaginal flora, and inflammatory markers.

P2-S2.14 ALCOHOL ABUSE AND SEXUAL VICTIMISATION AMONG FEMALE SEX WORKERS IN CHINA

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Background Global literature suggests women often have higher sexual risks under the influence of alcohol abuse. However, data are limited from vulnerable population such as the female sex workers (FSW) in developing countries. The current study aims to fill out the literature gap by examining the association between alcohol abuse and sexual victimisation among FSWs in China.

Methods A cross-sectional survey was conducted among 1022 FSWs who were recruited through community outreach from nine different types of entertainment establishments in Guangxi, China. The FSWs completed a self-administered survey on their demographic, information, alcohol use/abuse behaviours (AUDIT), and sexual victimisation experience. Multivariate regression was employed to assess the relationship between alcohol abuse and sexual victimisation.

Results FSWs who were younger, less educated, never married, and working in an alcohol-serving establishment were more likely to have higher risks of alcohol abuse ($p < 0.05$). FSWs who were at higher risks of alcohol abuse reported significantly higher sexual victimisation experience ($p < 0.001$). Multivariate models indicated significant relationships between alcohol abuse and sexual victimisation experience while controlling for potential demographic confounders, such as having been made drunk by client (aOR=1.10, 95% CI 1.07 to 1.16), "having been stripped off (aOR=1.07, 95% CI 1.02, 1.13)", "having been taking advantages (aOR=1.08, 95% CI=1.05 to 1.12)", "having been asked for extra demands (aOR=1.08, 95% CI 1.05 to 1.11)", and "having been sexually assaulted (aOR=1.08, 95% CI 1.04 to 1.13)".

Conclusion Alcohol abuse was prevalent and associated with sexual victimisation experience among FSWs in China. Culturally appropriate interventions are urgently needed to reduce alcohol use related sexual risks among this vulnerable population.

P2-S2.15 TYPOLOGY OF FEMALE SEX WORKERS AND ASSOCIATION WITH HIV RISKS: EVIDENCE FROM CHINA

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Background The fast growing heterosexual transmission of HIV in China has drawn global attention. Millions of female sex workers (FSW) play a critical role in the escalating epidemic. Existing studies on FSW in China have typically used venue, income or venue to categorise FSW and none developed a data-driven typology based FSW's HIV risks.

Methods A cross-sectional survey was administered among 1022 FSW recruited from 60 different types of entertainment establishments or personal service sectors in southwest China. FSW's HIV risk was measured by a composite score of 12 items on condom use, HIV testing, STD infection, drug abuse. We used multiple regression and graphics to illustrate the relationship between the

HIV risk and key FSW characteristics including age, working venue, and income.

Results Unlike previous studies that assumed a linear relationship between HIV risk and age or income, our data revealed that the relationships between HIV risk or income varied by venue. For example, older FSW in clubs or massage parlour reported lower level of HIV risks compared to their counterparts whereas older FSW in saner or KTV reported higher level of HIV risks; but age was not significantly associated with HIV risk for FSW working in hair salons or streets. Income was positively associated with HIV risks; however, the association reversed after the income reached 1500 ¥ (\$225). None of the key variables such as age, income, or venue can predict HIV risks singularly; in addition, all three variables need to be integrated to devise the appropriate typology.

Conclusion Our study suggests that it was too simplistic to categorise FSW HIV risks by a single indicator; the interactions between individual and environmental factors underscored the importance of multiple indicators for typology. Interventions to reduce HIV risks in FSW in China could be more focused and targeted those at highest risks.

P2-S2.16 IMPACT OF DURATION OF EXPOSURE TO SEX WORK ON HIV PREVALENCE IN 23 DISTRICTS OF SOUTHERN INDIA

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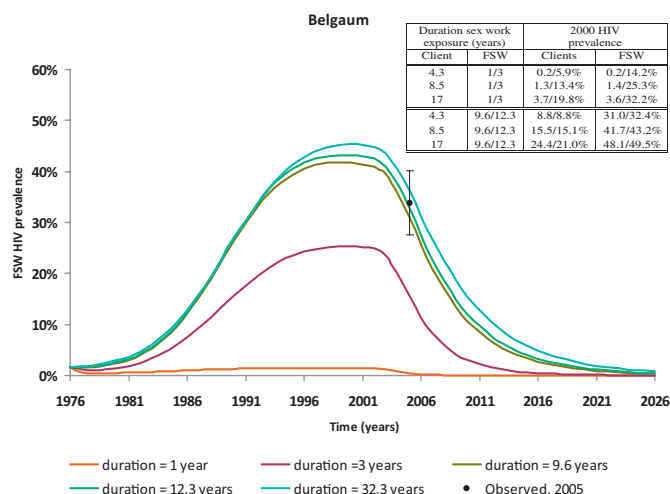
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Background HIV prevalence among female sex workers (FSW) in various districts of Andhra Pradesh (AP), Karnataka (KA), Maharashtra (MH), Tamil Nadu (TN) ranged between 8 and 26%, 10 and 34%, 6 and 38%, 2 and 13%, respectively, in 2005–2006. The duration of selling or buying sex has been suggested as a key determinant that may explain ecological difference in HIV prevalence. Thus, we estimated FSW duration across geographically distinct districts and assessed its impact on HIV transmission.

Methods Cross-sectional FSW survey data from 23 districts of MH, TN, KA, AP (2005–2006) (IBBA), collected as part of the evaluation of Avahan, the India AIDS initiative, were used to estimate FSW duration (crude duration=difference between age at survey and age of entry into sex work). "Corrected" durations that adjust for the censored nature of the data (as FSW are still in sex work) were estimated for FSW using a birth-and-death dynamical model (with 9 duration compartments) fitted by maximum likelihood to each district-specific FSW IBBA duration distribution. A deterministic model of HIV transmission among FSW/clients was parameterized/fitted to Belgaum IBBA data with crude FSW duration of 9.6 years for FSW. FSW duration was thereafter varied between 1 and 33 years to assess its influence on model HIV prevalence, for different assumed client duration (4–17 years). Each individual leaving was replaced by a new susceptible person.

Results Mean crude FSW durations ranged between 3.7 and 9.6 (median 3–7) years across districts compared to 4.3 (Bangalore, Thane street-based) and 12.5 (Belgaum) after correction. District average corrected durations tended to be shorter for TN (6 years) and longer for MH (9 years). Within-district differences (ratios) between corrected and crude durations ranged between 0.5 and 3 years (1.1–1.3-fold). Observed differences in FSW duration across

districts had a modest impact on FSW/client HIV prevalence if duration exceeded 9 years (Abstract P2-S2.16 figure 1), independently of client duration. The impact of FSW duration below 3 years on FSW/client HIV was critical. FSW/client HIV prevalence was more sensitive to variation in client duration exceeding 9 years (Abstract P2-S2.16 figure 1).



Abstract P2-S2.16 Figure 1

Conclusions Crude duration may underestimate FSW duration by up to 32%. This level of error is unlikely to influence FSW HIV prevalence projections. Large variation in HIV across districts is unlikely to be explained by FSW duration alone if exceeding 9 years but could be potentially be explained by variation in client duration.

P2-S2.17 COMMUNITY-LED STRUCTURAL INTERVENTION'S PROMISE FOR HIV PREVENTION: A CASE STUDY FROM THE ASHODAYA SAMITHI SEX WORKER COLLECTIVE OF MYSORE, INDIA.

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Background As evidence has revealed the role of broader political, economic and local environmental factors in shaping HIV epidemic transmission patterns, new approaches have emerged that move beyond addressing individual risk behaviour to addressing the structural forces that condition risk. Within this context, Community-Led Structural Interventions (CLSI) aimed at reducing sex workers' vulnerability have demonstrated successes in reducing STI and HIV transmission in India.

Methods A comprehensive CLSI, known as Ashodaya Samithi, was initiated in the South Indian district of Mysore. Established in 2004 by the India AIDS Initiative (Avahan), Ashodaya is funded through the Bill and Melinda Gates Foundation and implemented by Karnataka Health Promotion Trust. Four-years into its inception, the project lays claim to significant successes. The collective has reported a reduction in STIs, an increase in condom use, and the mobilisation of 1500 sex workers. Our research describes and analyzes sex workers' participation as it unfurled across various phases of collectivisation. Qualitative, community-based research methodologies were utilised including; 40 open-ended interviews,

participant observations and focus groups. Drawing upon these findings we explored how a community of sex workers came to develop the ability to recognise, challenge and significantly alter an array of unequal power relations that shape HIV vulnerability in their everyday lives.

Results Our research demonstrates the promise CLSI projects hold for preventing the spread of HIV. Ashodaya's success depends on its ability to set new community norms, create a safer working environment, improve stakeholder relationships, and provide a supportive network. The interrelated processes of mobilisation, collectivisation, sex-worker identity, and political action, which transformed day-to-day vulnerability to HIV for Mysore sex workers demonstrates how complex HIV prevention remains.

Conclusions Findings from the Ashodaya collective offer valuable lessons for public health practice. The Ashodaya collective demonstrates how CLSI strategies can be employed to help transform the very vulnerabilities that endanger health and sustain STI and HIV transmission. The collective provides an example of the positive impact of CLSIs and provides evidence for strategies that steer away from individual or education based public health programs, to those that engage with structural inequities.

P2-S2.18 ARE WE DOING ENOUGH TO COVER RISK OF STI/HIV TRANSMISSION FROM THE LOVERS "OF FEMALE SEX WORKERS (FSWS)?"

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Background Condoms use among Female sex workers with paid clients found to have increased rapidly in three years from 58% to 76% (IBBA data) due to scale up of interventions among them. However condom use with lovers still remains low at 33% (IBBA 2008). PBS 2009 shows 50% of the sex workers have lovers. Programmatically it has been challenging to design and implement programme to reach out to Lovers and to provide them services consistently. To understand the Lovers and the risk factor associated with them we conducted Focused Group Discussion (FGDs).

Method 14 Separate FGDs were conducted with both the FSWs and their Lovers in seven districts of Karnataka. A structured tool guided the Facilitators of the FGD. Each FGD was documented by a Recorder.

Results Three fourths of the FSWs had more than one lover at any given point of time. One fourth of the lovers had physical relationship with other FSWs or women other than wife. Half of the FSWs especially the urban based changed lovers in less than a year. Majority of the lovers knew that their partner is a sex worker. Key barriers for Lovers to use condoms with the sex workers were: 1. Faith and trust with FSWs (almost half of the respondents) 2. Condoms don't give pleasure (one third of the respondents). The barriers stated by the FSWs were: 1. Faith and trust in the lover because they are like husbands (one third of the respondents) 2. Did not want to make the lover suspicious (one fourth of the respondents) One fourth of the sex workers responded experiencing harassment from the lovers especially for money. Only one third of the lovers had correct information about HIV (modes of transmission) and negligible number of lovers accessed STI services.

Conclusion Evidence shows that there is clear need to intervene with Lovers of female sex workers to improve condom use among them. The interventions have to address not only gaps in information, condom use, access to service, but also the perception of faith and trust.