

*Mycoplasma genitalium* (MG)). Proportions, medians, interquartile ranges (IQR), and 95% confidence intervals were calculated using STATA 9.0.

**Results** A total of 220 FSWs were enrolled in the study. Median age was 25 years old (IQR: 21–30). Consistent condom use with clients in the last month was 81.33% (95% CI: 74.16 – 87.22), and with occasional partners was 63.11% (95% CI: 53.03 – 72.41). Approximately 57.27% (95% CI: 50.45–63.9) had received an HIV test in the last 12 months. HIV prevalence was 0.91% (95% CI: 0.11–3.26%). The most prevalent STI was HSV-2 (51.63%, 95% CI: 44.73–58.48), followed by CT; (19.79%; 95% CI: 14.33–26.23), TV (18.18%; 95% CI: 12.93–24.47), and MG (11.23%; 95% CI: 7.09–16.65). Syphilis and NG prevalence was observed at < 3%.

**Conclusions** We found low prevalence of HIV in FSWs in Belize. However, risky sexual behaviours and STI prevalence remain a problem. Improved prevention strategies aimed at consistent condom use and access to HIV/STI testing are needed for the control and prevention of infections among FSW.

### P3.108 MOBILE GYNECOLOGICAL CLINIC - EFFECTIVE TOOL FOR HIV/STI SCREENING DIAGNOSTICS FOR COMMERCIAL SEX WORKERS IN LVIV REGION (UKRAINE)

doi:10.1136/sextrans-2013-051184.0567

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**Background** Since October 2008 till present time, Lviv Regional AIDS Center and Charitable Salus Foundation implement project “HIV prevention by increasing access to VCT (voluntary HIV testing and counselling), sexually transmitted infections (STI) diagnostics among commercial sex workers (CSW) in Lviv region using mobile gynaecological clinic (MGC). The initiative is supported by International HIV/AIDS Alliance in Ukraine.

**Methods** Specially equipped bus - MGC was used for this intervention. MGC works daily except Saturday and Sunday visiting highest HIV rate places all over Lviv region (2.5 million population) providing CSW with condoms, lubricants, information materials and rapid testing for HIV, syphilis, gonorrhoea, Chlamydia, hepatitis B and C. Shampoos, lipsticks, hand creams were distributed among CSW as a motivation for those clients who passed HIV/STI test.

**Results** During October 2008 - January 2013 12059 visits were done by CSW. 4031 rapid HIV test were made (197 positive results) 2886 rapid syphilis tests (37 positive results) 2133 tests for gonorrhoea (30 positive results) 2133 tests for Chlamydia (230 positive results) 1499 Hepatitis B tests (63 positive results) 1499 Hepatitis C tests (141 positive results)

**Conclusions** Taking into consideration obtained data such intervention is very needed and welcomed by key population representatives. Gender oriented approach in HIV prevention programmes for female sex workers is very important factor for the success of the intervention. In great importance continuation of performed services and spreading the range of activities such as tuberculosis diagnostics, access to medications for treatment in MGC.

### P3.109 VARIABILITY IN THE DETERMINANTS AND PREVALENCE OF HIV AND SYPHILIS AMONG FEMALE SEX WORKERS IN TWO NEIGHBOURING DISTRICTS IN NORTH KARNATAKA, INDIA

doi:10.1136/sextrans-2013-051184.0568

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**Background** Districts in north Karnataka have the highest HIV prevalence and female sex worker (FSW) to male population ratio in India. We examined the variability in socio-cultural, behavioural and clinical determinants contributing to HIV and syphilis prevalence in two neighbouring north Karnataka districts.

**Methods** FSW recruited from targeted intervention clinics responded to an oral questionnaire, underwent clinical examination and provided a blood sample for HIV and syphilis testing. We conducted univariate and multivariate logistic regression with HIV and syphilis as outcomes and with age, place of residence, marital status, literacy, monthly income, alcohol use, age at sexual debut and commercial sex work, clientele over the past week and STI syndromes as variables.

**Results** 1545 and 1551 FSW were recruited in the two districts. HIV (8% vs 6%) and syphilis prevalence (3% vs 1%) was significantly higher in district A. District A had significantly higher proportions of rural residents (92% vs 81%), devadasi (67% vs 15%), illiteracy (80% vs 64%), higher income (Rs6000 vs Rs5000), clientele per week (6 vs 4) and STI syndromes (16% vs 7%). While age at sexual debut was similar in both districts, significantly higher proportion in district A initiated sex work below the age of 15 (26% vs 11%). Alcohol consumption was higher in B (15% vs 3%). The odds of being HIV positive was significantly higher amongst FSWs with income > Rs5000 per month (AOR 1.61), being devadasi (AOR 2.43), consuming alcohol (AOR 1.64), h/o STI syndrome in the past 6 months (AOR 1.97) or clinically with an STI (1.95).

**Conclusion** Despite being neighbouring districts with similar socio-demographic backgrounds, significant variability in the prevalence of HIV and syphilis is perhaps contributed by the variability in prevalence of specific socio-cultural factors, behaviours and clinical syndromes of STI.

### P3.110 RELATIONSHIP BETWEEN VIOLENCE AND HIV INFECTION AMONG FEMALE SEX WORKERS IN BENIN

doi:10.1136/sextrans-2013-051184.0569

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**Objective** In Africa, there are few studies examining female sex workers (FSWs) vulnerability to physical, sexual and psychological violence and how this influences their HIV risk. This study sought to assess the types, frequency and factors associated with violence among FSWs and examined the relationship between violence and HIV prevalence.

**Methods** Data from an integrated biological and behavioural survey (Benin, 2012), were used to analyse the frequency of physical, sexual and psychological violence. We also created a violence score using the number of violence types experienced by FSWs. Multivariable logistic regression analysis controlling for potential socio-demographic and behavioural confounders was used to assess the association between violence and HIV.

**Results** Among the 1016 FSWs recruited in this survey, 17.1%, 13.3% and 33.4% reported having experienced, at least once in the past 30 days, physical, sexual and psychological violence, respectively. Condom breakage was strongly and significantly associated with all 3 types of violence ( $P < 0.0001$ ). HIV prevalence was 20.39%. In the multivariable analysis, the adjusted odds ratio (AOR) for the

association between HIV prevalence and physical violence was 1.59 (95% confidence interval [95% CI]: 1.01–2.51). The corresponding AORs for sexual and psychological violence were 1.67 (95% CI: 1.02–2.72) and 1.60 (95% CI: 1.10–2.33), respectively. Exposure to a larger number of violence types was associated with a progressively increasing HIV prevalence: AOR = 1.39 for one type of violence, AOR = 1.75 for two types and AOR = 2.43 for three types ( $p = 0.005$ , test for trend).

**Conclusions** This study shows an association between exposure to three different forms of violence and HIV prevalence among FSWs in Benin. Although violence could also be a consequence of an HIV-positive status, it is also likely to be a distal determinant of HIV acquisition. Interventions are needed to reduce violence towards FSWs; this should be integrated into HIV prevention programmes.

### P3.111 THE PREVALENCE OF HIV IN MALE SEX WORKERS IN LONDON (2002 – 2012)

doi:10.1136/sextrans-2013-051184.0570

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**Background** The prevalence of HIV in the UK is increasing steadily, particularly in higher-risk populations. Male sex-workers (MSW) are a particularly vulnerable group, often engaging in high-risk sexual activities with multiple partners, with increased barriers to accessing care. The objective of this study was to determine how the prevalence of HIV in patients attending a specialist MSW clinic in London has changed over the last ten years.

**Methods** Total attendances of MSW attending a dedicated clinic in Central London were collected, and records reviewed for two time periods (1/1/2002–31/12/2012 and 1/1/2012–31/12/2012). HIV status of MSW was determined by attendance at the HIV unit at the Central London Hospital. Details of CD4 count, HAART, viral load (VL), sexual practises and condom use were obtained and compared.

**Results** 292 men attended the clinic in 2002 and 257 in 2012. 5 (1.7%) were known HIV positive in 2002, 33 (12.8%) in 2012. In 2002, 1 patient (20%) was on HAART with an undetectable VL and 4 had CD4 counts above treatment threshold. In 2012, 18 patients (55%) were on HAART, 12 of which (67% of total) had an undetectable VL. 12 patients (36%) were not on HAART and had a CD4 count of  $> 350$ . 3 transferred care.

**Conclusions** There has been a dramatic increase in the prevalence of HIV in MSW attending a dedicated clinic in London over the last decade (1.7% in 2002, 12.8% in 2012). This may be due, in part, to increased uptake through the introduction of 'opt-out' testing for HIV in GUM clinics in recent years. This increasing prevalence of HIV reflects the high-risk status of MSW highlighting the importance of specialised clinics providing risk reduction strategies such as promotion of condom use, regular STI screening, post-exposure prophylaxis and HAART to reduce outwards transmission in this cohort.

### P3.112 HIGH PREVALENCE OF GONORRHOEA AND HPV AMONG MALE SEX WORKERS IN THREE CITIES OF VIETNAM: CHALLENGES IN ADDRESSING HIV EPIDEMIC AMONG MSM POPULATIONS

doi:10.1136/sextrans-2013-051184.0571

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**Background** MSM populations in Vietnam are faced with a rapidly growing HIV epidemic, yet little is known about STIs epidemic

in this diverse population. This study describes prevalence of Gonorrhea, HPV among male sex workers, and key correlates in three major cities.

**Method** Cross-sectional surveys from 2009 to 2011 used Time-Location-Sampling to recruit eligible participants. Eligibility criteria included being biological male at birth; self-report of having sex with a male partner in exchange for material rewards within the last 90 days; and age from 16 to 35. Blood samples were taken for HIV testing; pharyngeal, anal and urethral swabs for gonorrhoea and HPV.

**Results** Of 710 participants, 4.2% was HIV positive. Testing for gonorrhoea and HPV showed high prevalence of 28.8% and 33.2% respectively. Pharyngeal test for gonorrhoea (23.7%) and anal test for HPV (26.1%) were highest among swapping sites. The rates of infection were particularly higher in Ho Chi Minh City (largest economic city) as compared to Hanoi (political capital) and Nha Trang (major beach city). Odds ratio controlling for cities showed that testing positive for gonorrhoea was associated with engaging in oral sex past 30 days ( $OR^{M-H} = 4.33$ ; CI = 1.3 – 14.4); having receptive anal sex with more than three clients past 30 days ( $OR^{M-H} = 2.03$ ; CI = 1.18 – 3.51). HPV infection was associated with engaging in sex work for more than two years ( $OR^{M-H} = 1.6$ ; CI = 1.09 – 2.34); having receptive anal sex past 30 days ( $OR^{M-H} = 1.95$ ; CI = 1.35 – 2.83); having oral sex with more than four clients past 30 days ( $OR^{M-H} = 1.63$ ; CI = 1.12 – 2.39).

**Conclusion** The unprecedented high prevalence of pharyngeal Gonorrhea and anal HPV among MSW is significant given the high HIV prevalence among a relatively young population. Appropriate STIs is important in addressing the twin epidemics among MSM in Vietnam.

### P3.113 MALE SEX WORKERS HAVING SEX WITH MEN (MSW) IN THE NETHERLANDS: A HIDDEN POPULATION, AT A HIGHER RISK FOR STI/HIV THAN FSW AND MSM

doi:10.1136/sextrans-2013-051184.0572

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**Background** During outreach activities of our public health STI-clinic a group of young men was encountered, who engaged in internet escort activities. Their commercial sex activities with men took place hidden from public sight and regular health care. This study aims to describe the STI incidence and risk behaviour in these male sex workers having sex with men (MSW), compared to female sex workers (FSW) and men who have sex with men (MSM) attending the same STI-clinic.

**Methods** Retrospective cross-sectional study among self-identified MSW, FSW and MSM at our STI-clinic in the Netherlands (January 2009–May 2012). All clients completed a questionnaire on sexual behaviour and were tested for STI: at multiple anatomic sites (anal, genital, oral) for chlamydia and gonorrhoea, and in serum for hiv, hepatitis B and syphilis. Clinical consultations ( $n = 3716$ ) from MSW ( $n = 203$ ), FSW ( $n = 801$ ) and MSM ( $n = 2712$ ) were compared using chi-square statistics.

**Results** A new STI was diagnosed in 42% of MSW; this proportion was lower in MSM (14%;  $p < 0.01$ ) and FSW (9%;  $p < 0.01$ ). Of MSW 8% showed a new hiv-infection (0% in FSW;  $p < 0.01$  and 1% in MSM;  $p = 0.03$ ).

Majority (87%) of MSW originated from Eastern Europe, their median age was 24 years. Less than half of the men self-identified as homosexual, and indeed 58% also reported sex with women (28% of MSM;  $p < 0.01$ ). MSW reported sex contacts with (other) sex