

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)

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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

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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

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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

workers (18%) more often than FSW (0%,  $p < 0.01$ ) and MSM (3%,  $p < 0.01$ ).

**Conclusion** MSW are at a high risk for contracting and transmitting STI from and to their clients, but also from and to non-commercial (female) contacts and within their own MSW network. This makes them a potential bridging population for STI transmission. While the MSW population is largely hidden, we prove that it is feasible to reach them with care.

**P3.114 ARE MALE SEX WORKERS IN TEL-AVIV, ISRAEL AT HIGHER RISK TO GETTING STI AND HIV THAN MEN WHO HAVE SEX WITH MEN**

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**Background** The number of men who have sex with men (MSM) newly diagnosed with HIV in Israel has quadrupled since 2000. Male sex workers (MSW) are often associated with risk behaviours and STI/HIV infections; thus, they may play a role as core group transmitters. This study aimed to explore knowledge, attitudes and sexual-practises of MSW in Tel-Aviv in comparison with MSM, classified by their risk-behaviours, and to outline attributes related to STI/HIV-prevalence.

**Methods** MSW were recruited for this cross-sectional study from designated street venues and gay-dating internet-site. MSM were recruited from gay-related venues and divided into high-risk MSM (HRMSM) if they performed unprotected anal intercourse in the last six-months with a HIV-discordant/unknown partner, and to low-risk MSM (LRMSM). Each participant completed a questionnaire and was tested for STI/HIV.

**Results** Of 87 MSW and 635 MSM approached, 53 (60.9%) and 235 (37.0%) participated, respectively. Street-MSW ( $N = 32$ ) had more female sex partners and were more drug-dependant than internet-MSW ( $N = 21$ ). No differences were found in their knowledge regarding STI/HIV transmission, practises and STI/HIV burden.

Compared to HRMSM, MSW had different demographic attributes and demonstrated more realistic perception regarding the risk to getting STI/HIV, while no differences were found in their knowledge and sexual practises. STI and HIV burden among MSW, HRMSM ( $N = 119$ ) and LRMSM ( $N = 116$ ) were 28.3%, 23.5%, 10.3%, and 5.6%, 9.2%, 0%,  $p = 0.009$  and  $0.001$ , respectively.

Multivariate models evaluating attributes associated with HIV/STI-diagnosis did not find sex-work to be significant if the variable used was MSW vs. HRMSM, regardless of the adjustments performed. However, when MSW vs. LRMSM was used in the model, sex-work was associated with STI/HIV-diagnosis.

**Conclusions** Street-MSW and internet-MSW shared comparable sexual practises and no difference was found in their STI/HIV burden. Likewise, MSW and HRMSM had comparable sexual practises and no difference in STI/HIV prevalence.

**P3.115 HIV AND STI PREVALENCE AMONG COMMERCIAL SEX WORKERS**

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**Background** Although there is increasing evidence of the risks associated with HIV infection and transmission among CSW in Tanzania. nothing is known about other sexually transmitted infections (STIs) in this population.

**Methods** As a strategy to address high HIV prevalence rate among the CSWs, SIYOPE established a programme in Dar-es-salaam in 2009 to 2011. The project involved HIV prevention interventions in

a coordinated manner integrating both clinical services and intensified community outreach programme targeting the CSWs. Some of the key steps undertaken by the project in developing an integrated health services for CSWs include community Mobilization & CSWs, care and Support. Since its inception the project a total of 307 CSW were recruited between April and October Out of them, 96% have been screened for HIV, 94% have been screened for STI, 55% have been screened for TB and 56 are accessing FP services. Further 75 CSWs have tested positive, 30 are on ARVs and the project has formed 2 support groups for women living with HIV. In addition the project continues to address local-level policy issues that hinder access to services among the CSWs as well as stigma and discrimination through campaigns and engagement of community police.

**Results** Most of the CSW were aged 14–25years and a large proportion (95%) reported having multiple male partners with Whom they often had unprotected sex. 31% reported STIs in the past 12 months, while 26 reported STI symptoms at the time of the outreach activity. Weighted prevalence of STIs ranged from 0.5–1.9% for syphilis, 4.2–8.9% for gonorrhoea, 0–34.5% for Chlamydia.

**Conclusion** There is a large unmet need for CSW in Tanzania. This calls for an urgent need for targeted screening and vaccination to prevent The untoward HIV and STIs among CSW in Tanzania.

**P3.116 RISK FACTORS FOR MYCOPLASMA GENITALIUM AMONG FEMALE SEX WORKERS IN NAIROBI, KENYA**

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**Background** Prevalence of *Mycoplasma genitalium* is higher in vulnerable populations of women in low-resource settings; predictors for infection, however, are not well understood. This study aimed to determine the prevalence of *Mycoplasma genitalium* and its associated risk factors among female sex workers in Nairobi, Kenya.

**Methods** A total of 350 FSW aged 18–50 years old participated in this cross-sectional study from 2009 to 2011. A questionnaire was administered at baseline to obtain information on sociodemographics and sexual behaviours. Physician-collected cervical samples were tested for *M. genitalium* mRNA and other sexually transmitted infections using transcription-mediated amplification-based APTIMA assays (Hologic/Gen-Probe Inc.). Cervical cytology was conducted using physician-collected specimens and classified according to the Bethesda criteria.

**Results** The median age in the study was 28 (range: 18–48). Prevalence of *M. genitalium* was 12.7%. In the multivariate model, younger age was associated with a higher risk of *M. genitalium*, whereby women greater than 30 years old were less likely to have infection (OR [95% confidence interval] = 0.3 [0.1.0.9] versus women less than 30 years old). Women who reported using condoms at least “most of the time” were more likely to be infected with *M. genitalium* than women who reported using condoms “half the time or less.” Relative to those with normal cytology, women with cytology results of either high-grade squamous intraepithelial lesions or squamous cell carcinoma had a higher prevalence of *M. genitalium* (23.1% vs. 16.2%), although effect estimates were relatively imprecise.

**Conclusions** Younger women within a vulnerable population appear to be at greater risk of *M. genitalium* infection. The reverse association between condom use and *M. genitalium* may be due to