

number of female sex partners ranged from 0 to 2; over 90% (89%–98%) of MSW reported anal sex and 26% of them engaged in group sex; but proportions who reported always using condoms for anal sex were less than 60% (ranged from 28% to 60%). HIV screening positive rate was 9% in both 2007 and 2008 see Abstract O2-S6.04 table 1. HIV positive rate is associated with the number of male sex partners and condom use frequency in both 2007 and 2008.

Conclusion MSW have been emerging in the sex trade industry in China. Behavioural risk factors and high prevalence of HIV in the MSW survey sample signalled a need for further understanding of this special population. Effective public health intervention strategy and programs are in urgent demand.

Abstract O2-S6.04 Table 1 Demographic characteristics of men who provided sex services for money in 2008 survey

Income US \$/month	
No income	9%
<\$145	9%
\$145–285	29%
\$285–430	20%
\$430–570	13%
>\$570	20%
Education	
Primary education	13%
Junior high	13%
High school	47%
University	27%
1st sex partner	
Male	53%
Female	44%
Place for soliciting sex partners	
Bar, dance-hall, tea house, club	31%
Bath-house, massage parlour	7%
Public place: park, toilet etc.	20%
Internet	38%
Other	4%
Sex orientation	
Gay	40%
Heterosexual	11%
Bi-sexual	40%
Not sure	9%
Last 6 months sex with men	98%
Last 6 month sex with women	40%
Group sex activity	27%

O2-S6.05 SEXUAL VIOLENCE AGAINST MEN WHO HAVE SEX WITH MEN AND TRANSGENDERS (MSM-T) IN SOUTHERN INDIA

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Introduction Sexual violence (SV) has been associated globally with vulnerability to HIV and other sexually transmitted infections (STIs) in marginalised populations. There is little information on SV among men who have sex with men and transgendered individuals (MSM-T) in South Asia. Societal sanctions resulting in stigma and discrimination may place MSM-T at especially high risk for both SV and HIV/STIs. We investigated factors associated with SV among MSM-T, and the relationship between health care utilisation patterns and reported SV.

Methods Data were obtained from cross-sectional surveys in four districts in Karnataka state, south India. Bivariate and multivariable logistic regression models were constructed to examine factors related to SV. Multivariable negative binomial regression models examined the association between physician visits and SV. Normalised weights were used to account for a complex sampling design.

Results The total sample size was 543. The prevalence of SV in the past year was 18%, with a range by district of 12%–31%. HIV prevalence among those reporting SV was 20%, compared to 12% among those not reporting SV. In a multivariable model, among those reporting sex work involvement, having anal sex with five or more casual sex partners in the past week was associated with SV (AOR: 4.1; 95% CI: 1.2% to 14.3%, $p=0.03$). Of those not reporting sex work, feminised sexual identities (AOR: 6.10; 95% CI: 1.3% to 28.8%, $p=0.03$) and younger age (AOR: 0.9; 95% CI: 0.9% to 1.0%, $p=0.002$) were associated with SV. There was no significant association between numbers of partners and SV among those not reporting sex work. Increased physician visits among those reporting SV was reported only for those involved in sex work (AOR: 1.7; 95% CI: 1.1% to 2.7%, $p=0.01$).

Conclusions There was a trend towards higher HIV prevalence overall among MSM-T reporting sexual violence, as well higher HIV prevalence among important sub-groups experiencing SV. These findings highlight the importance of integrating programs to address sexual violence into STI/HIV prevention programs among MSM-T, and of understanding that there is considerable contextual heterogeneity in vulnerability to violence in this population. The demonstrated higher rates of physician utilisation by male sex workers who report sexual violence suggests an important point of contact for a population which may otherwise be quite hidden.

O2-S6.06 SEXUAL PRACTICES OF TRANSGENDER COMMUNITY IN PAKISTAN

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Issue Pakistan, the second most populous Muslim nation in the world, has started to finally experience and confront the HIV/AIDS epidemic. The country had been relatively safe from any indigenous HIV cases for around two decades, with most of the infections being attributable to deported HIV positive migrants from the Gulf States. However, the virus finally seems to have found a home-base, as evidenced by the recent HIV outbreaks among the injection drug user community. Extremely high-risk behaviour has also been documented among Hijras (sex workers) and long-distance truck drivers. The weak government response coupled with the extremely distressing social demographics of this South-Asian republic also helps to compound the problem. The time is ripe now to prepare in advance, to take the appropriate measures to curtail further spread of the disease. If this opportunity is not utilised right now, little if at all could be done later. Objective: To assess risk behaviours including number and type of sex partners, condom use, knowledge of STIs and HIV/AIDS among hijras (eunuch) of Lahore, Pakistan.

Methods Two hundred hijras were recruited through Respondent Driven Sampling and interviewed by a team of experienced interviewers. Lessons Learnt: The mean age of the respondents was 29.2 ± 6.3 years (Range 18–55). More than two third (68.5%) were illiterate; 23% were married. Among married, 89% were married to women and had 1 to 7 children. Sixty per cent had taken some hard drug (Cocaine, Heroin, Morphine and Amphetamine) during the last 12 months and 3% had injected drugs. Eight per cent had sex with a woman during the last year. During the last 1 week, 82% respondents had 1–21 new clients and 69.5% never used condom; 21.5%

had oral sex with new clients. During the same period, 72% respondents had 1–12 regular clients and 71.5% of them never used condom while 7% respondents had 1–5 non-paying partners. During the last 1 month, five hijras had paid women to have vaginal sex. Nineteen hijras paid another man to have sex with them. Only 27.1% were not aware of any symptom of sexually transmitted infections. Majority of the hijras (81.5%) were familiar with HIV/AIDS. However knowledge about its mode of transmission was faulty.

Conclusion Due to low level of accurate knowledge regarding STI/HIV and pernicious risk behaviours, hijras may become a potent source of HIV transmission, if necessary remedial measures are not taken.

Clinical sciences oral session 1—Syphilis: enhanced approaches for detection & characterisation

03-S1.01 BRITISH OCULAR SYPHILIS STUDY (BOSS): NATIONAL SURVEILLANCE STUDY OF INTRAOCULAR INFLAMMATION SECONDARY TO INFECTIOUS SYPHILIS

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Background Syphilis poses a significant public health problem. There has been a 1032% increase in the incidence of syphilis between 1999 and 2008 in the UK. There are currently no epidemiological studies looking at the incidence of ocular syphilis in the light of the outbreak. Ocular syphilis is a rare, but treatable if recognised early. The purpose of this study is to ascertain the incidence of intraocular syphilis in the UK and to characterise the clinical presentation patterns of ocular syphilis.

Methods A prospective study was conducted in the UK and Republic of Ireland, where cases of ocular syphilis were reported through the national reporting system (British Ocular Surveillance Unit) over an 18-month period from May 2009. Case definition was any adult patient who presented with intraocular inflammation and early infectious syphilis as evidenced by positive syphilis serology with (1) high titre RPR of >1:8 or (2) signs of secondary syphilis.

Results 35 new cases of ocular syphilis were reported (annual incidence 0.46 per million) with a mean age of 51.5 years (range 22–75 years). 86% were males; 88% were caucasians and 12% were Afro-Caribbean. The mean duration of symptoms was 1.0 month prior to presentation (range 2 days to 4 months). 46% of patients had bilateral involvement and the mean presenting logMAR visual acuity was 0.48 (20/60 Snellen; range –0.1–1.86). 54% had visual acuities of 20/40 Snellen or better at initial consultation. Presenting acuity was not influenced by duration of visual symptoms. Intra-ocular pressure on presentation was elevated in only one patient (27 mm Hg). Although 68.4% had an anterior uveitis (AU), isolated AU was rare (1 case). 63% had vitritis; 61% had a form of posterior uveitis, (60% retinitis, 56% vasculitis, 50% macular oedema, 28% choroiditis). 32% of cases had optic nerve involvement. Of males whose sexual orientation was ascertained 85% were MSM. Of patients whose HIV status was known, 71% were HIV positive.

Conclusions This study is the largest prospective series of ocular syphilis in the post-penicillin era providing up to date Western European incidence, demographic and clinical data. Syphilitic uveitis affects mainly adult males of all ages; majority were MSM or HIV positive. The uveitis is normotensive, posterior uveitis is common, and AU rarely presents in isolation. Clinician and public health awareness of ocular syphilis remains important.

03-S1.02 DECIPHERING THE CODE OF *TREPONEMA PALLIDUM* IN THE UK: IMPLICATIONS FOR TREATMENT AND PREVENTION

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Background The efficacy and convenience of single-dose oral azithromycin meant it became the preferred treatment for syphilis in many countries and a suitable alternative to penicillin in many more. However, two point mutations (A2058G and A2059G) in the 23srRNA gene of *Treponema pallidum* (*T. pallidum*) have separately been shown to confer high-level macrolide resistance. Furthermore, molecular analyses of *T. pallidum* with an enhanced sub-typing method have revealed the existence of a number of strain types, which both persist over generations and may be associated with distinct clinical phenotypes.

Methods Following informed consent, whole EDTA blood and ulcer exudate absorbed onto filter paper Snostrips were collected from patients with any stage of syphilis in a London genito-urinary medicine clinic between 2006 and 2008. *T. pallidum* DNA was extracted and strain types and macrolide resistance-associated mutations sought by: (1) PCR amplification of the 23srRNA gene and restriction fragment length polymorphism (RFLP) analysis following Mbo-II and Bsa-I digestion; (2) determination of the number of 60-base repeats within the ARP gene by PCR and agarose gel electrophoresis; (3) PCR amplification of the TPR gene family and RFLP analysis following Mse-I digestion; (4) sequence analysis of a section of the tp548 gene.

Results Forty-two of the 44 (95.5%) patients diagnosed with syphilis were male, of which 63.6% were MSM and 28/44 (63.6%) were HIV-1 infected. *T. pallidum* DNA was present in sufficient quantity and quality for analysis in 18/44 (40.9%). 23srRNA gene analysis revealed 6/18 (33.3%) wild-type sequences, 11/18 (61.1%) A2058G mutants and 1 (5.6%) A2059G mutant. Full strain-typing was possible in 5 clinical samples (four were 14d/g and one was 14d/f), and partial typing in a further 7 (see Abstract 03-S1.02 table 1).

Abstract 03-S1.02 Table 1

Sample	Number of ARP gene repeats	TPR gene Mse-1 RFLP analysis	Tp548 gene sequence analysis	Final enhanced strain type
1	—	—	G	—
2	14	d	G	14d/g
3	14	d	G	14d/g
4	14	d	G	14d/g
5	—	—	G	—
6	—	—	F	—
7	14	d	F	14d/f
8	14	—	F	—
9	—	—	G	—
10	14	d	G	14d/g
11	14	—	F	—
12	—	—	F	—
Positive control (Nichols)	14	—	A	14a/a

Conclusions The high frequency of *T. pallidum* macrolide resistance mutations described in the UK for the first time has clear implications for national treatment strategies. The majority of patients with syphilis were men, of which most were MSM and over half were HIV-1 positive. It is thought that transmission of *T. pallidum* within sexual networks has played a part in the resurgence of syphilis in the UK over the last decade and the predominance of the 14d/g subtype may reflect this. Alternative explanations are that this strain type is more virulent or has become endemic, as in the