

( $p < 0.001$ ). The use of alcohol and drugs was high in both groups, and cocaine and crack were the most commonly reported drugs. All transvestites and 80% of MtFs referred syphilis treatment. About 36% of transvestites and 22.7% of MtFs were HIV+ ( $p = 0.099$ ). They had already performed treatment for tuberculosis, 25.9% of transvestites and 9.1% of MtFs ( $p = 0.096$ ). HIV-AIDS-tuberculosis co-infection was observed in 17.2% of transvestites and 6.1% of MtFs.

**Conclusion** The results indicate that the living and health conditions of this population are marked by their vulnerability to HIV-AIDS and co-infection with tuberculosis. The invisibility of this group in official health data compromises the control of these diseases in this population. Also, the dichotomies observed between transvestites and MtFs should be considered in the planning of preventive actions and future studies.

### LB3.250 A COMPARATIVE ANALYSIS OF COSTS OF SINGLE AND DUAL RAPID HIV AND SYPHILIS DIAGNOSTICS: RESULTS FROM A RANDOMISED CONTROL TRIAL IN COLOMBIA

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**Introduction** HIV and congenital syphilis are major public health burdens contributing to substantial perinatal morbidity and mortality globally. Although studies have reported on the costs and cost effectiveness of rapid diagnostic tests (RDTs) for syphilis screening within antenatal care in a number of resource constrained settings, empirical evidence on country specific cost and estimates of single RDTs compared to dual RDTs for HIV and syphilis are limited.

**Methods** A cluster randomised control study design was used to compare the incremental costs of two testing algorithms: 1) single RDTs for HIV and syphilis; and 2) dual RDTs for HIV and syphilis, in 12 health facilities in Bogotá and Cali, Colombia. The costs of single HIV and syphilis RDTs and dual HIV and syphilis RDTs were collected from each of the health facilities. The economic costs per woman tested for HIV and syphilis and costs per woman treated for syphilis defined as the total costs required to test and treat one woman for syphilis were estimated.

**Results** A total of 2214 women were tested in the study facilities. Cost per pregnant woman tested and cost per woman treated for syphilis were \$10.26 and \$607.99 respectively in the single RDT arm. For the dual RDTs, the cost per pregnant woman tested for HIV and syphilis and cost per woman treated for syphilis were \$15.89 and \$1,859.26 respectively. Overall costs per woman tested for HIV and syphilis and cost per woman treated for syphilis were lower in Cali compared to Bogotá across both intervention arms. Staff costs accounted for the largest proportion of costs while treatment costs comprised less than 1% of the preventive program.

**Conclusion** Findings show lower average costs for single RDTs compared to dual RDTs with costs sensitive to personnel costs and the scale of output at the health facilities.

### LB3.251 PATIENT REFERRAL ALONE IS NOT AN EFFECTIVE STRATEGY TO CAPTURE PARTNERS OF PATIENTS WITH SEXUALLY TRANSMITTED INFECTIONS IN LOW RESOURCE SETTINGS: A CASE-CONTROL STUDY

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**Introduction** Partner notification (PN) is a key public health intervention aimed at preventing re-infection and controls the spread of sexually transmitted infections (STIs). However, limited research has been conducted to investigate factors associated with PN in Ethiopia.

**Methods** A nested case-control study was undertaken within a cohort of individuals being treated for STI in public health facilities in Ethiopia. Hierarchical binary logistic regression was used to identify socio-demographic, behavioural and psychosocial factors associated with PN.

**Results** A total of 250 patients on STI treatment who notified their partners (cases) were compared with 185 patients who did not notify their partners (controls). STI patients were less likely to notify their partner if they were single [AOR=0.33, 95% CI: (0.15–0.73)], in casual partnership [AOR=0.33, 95% CI: (0.15–0.73)], not knowledgeable about partner's sexual behaviour [AOR=0.43, 95% CI: (0.24–0.77)], poor knowledge of risk sexual behaviour [AOR=0.23, 95% CI: (0.12–0.43)] and if they had no intention to notify partners [AOR=0.19, 95% CI: (0.10–0.36)]. The odds of PN were higher among highly educated respondents [AOR=5.16; 95% CI: (1.83–14.54)].

**Conclusion** Capturing STI cases through patient referral partner notification is less likely to be successful among patients who are single and in causal relationship.

### LB3.252 PREVALENCE OF SYPHILIS AND FACTORS ASSOCIATED WITH FEMALE SEX WORKERS IN TERESINA, PIAUÍ

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**Introduction** Syphilis is a matter of concern for the reason of transmissibility and high magnitude. In the world there is an estimate that there are 357 million new Sexually Transmitted Infections each year, with a high incidence of syphilis with 5.6 million cases. The infection can affect all age groups and both sexes, presenting higher prevalence in populations of greater vulnerability as female sex workers. Therefore, the main goal was to estimate the prevalence of syphilis and associated factors in female sex workers.

**Methods** Analytical cross-sectional study, part of a macroproject entitled "Outpatient follow-up of HIV and Syphilis in female sex workers", conducted in Teresina, Piauí, Brazil, with 358 female sex workers, developed since August/2016, in follow-up. Approved by a Research Ethics Committee. Participants were recruited by the Respondent-Driven Sampling (RDS) method and the data collected by structured form.

**Results** Of the total number of participants (n=358), the prevalence of syphilis was 7.5%. Statistical significance was obtained in relation to skin colour (CI 40.84–51.16,  $p \leq 0.001$ ).

Age ranged from 18 to 59 years old, and the prevalence was higher in women aged 25 to 39 (14/3.9% CI 56.99–67.01), from Teresina (23/With no partner (26/7.2%, CI 92.26–96.94), with less than eight years of education at school (19.5% and 5.4%, CI 73.07–81.73). IC 63.38–73.02), catholic (19/5.3%, IC 75.97–84.23), income less than 1 minimum national wage (14/3.9%, CI 39.85–50, 15) and acting in pubs (14/3.9%, IC 45.63–55.97).

**Conclusion** High prevalence of syphilis among the younger sex workers, unmarried, catholic, impoverished, poorly schooled and working indoors. It is necessary to reinforce intervention measures, focusing on health education, in order to reduce the chain of transmission and safer sexual practices.

### LB3.253 SPATIAL DISTRIBUTION PATTERN ANALYSIS ON SYPHILIS IN CHINA

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**Introduction** In past twenty years, incidence of syphilis has been increasing and remained a public issue in China. In order to precisely control syphilis epidemic in the country, it was very important to explore and understand the spatial distribution pattern of syphilis in county level in China.

**Methods** We used the software of ArcGIS(version 10) to set up the national geographic information system(GIS) database of syphilis of all counties in China in 2015. The exploratory spatial data analysis(ESDA), including frequency, the global and local spatial autocorrelation methods were used to explore the spatial distribution characteristics of syphilis.

**Results** The median of incidence of syphilis was 26.05/100,000 population (25% percentile and 75% percentile were 15.70 and 44.77/100,000 population, respectively), minimum with 0.84, maximum with 433.28/100,000 population in all 2925 counties of Chinese mainland in 2015, and appeared significant positive skewing (skewness was 3.19). The global trend analysis indicated that the whole distribution of syphilis from northwest to southeast appeared as “U” shape and suggested that the areas of high incidence of syphilis located in northwest and southeast coastal regions in China. The global spatial autocorrelation analysis showed a positive spatial autocorrelation (Global Moran's I is 0.5962,  $p < 0.001$ ) and a high-high aggregation model (General G is 0.0441,  $p < 0.001$ ) for syphilis epidemics in county-level in China. The local spatial autocorrelation analysis was further used to output the hot-spot mapping of syphilis, including primary and secondary syphilis, latent syphilis in county-level, and 117 hot-spots counties with high incidence of primary and secondary syphilis were recognised and identified, mainly distributed in Yangtze River delta, north-west, north-eastern and south China.

**Conclusion** GIS and exploratory spatial data analysis, with the advantages of visualisation and accurate location, should be as an important tool to apply in syphilis surveillance and control.

### LB3.254 GREATER THAN TENFOLD INCREASE IN PHARYNGEAL CHLAMYDIA TRACHOMATIS AMONG GAY AND BISEXUAL MEN ATTENDING AUSTRALIAN SEXUAL HEALTH CLINICS 2010–2016

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**Introduction** Gay and bisexual men (GBM) are disproportionately affected by Chlamydia trachomatis (CT). A steady increase in CT notifications has been observed in Australia's most populous state (NSW), with an increasing proportion being pharyngeal CT (PCT) notifications. Our aim was to investigate temporal trends and associated behavioural factors of PCT compared to anogenital CT among GBM attending NSW sexual health clinics.

**Methods** Clinical data were extracted in early 2017 for the period 2010–2016 from 26 NSW clinics. Positive test yield (“yield”) was defined as the proportion of testing occasions where CT was detected.

**Results** 23,423 GBM were tested on 84 385 occasions during the 7 year study period to end 2016. Yield of genital testing was 8.8% (95%CI: 8.5–9.0), increasing by 17% over the study period (8.1%–9.5%,  $p < 0.001$ ). Yield of anorectal testing was 7.2% (95%CI: 7.0–7.4), increasing by 23% during the study period (6.0%–7.4%,  $p < 0.001$ ). Yield of pharyngeal testing was 2.2% (95%CI: 2.1–2.3), increasing by over 1200% from 0.3% in 2010 to 3.7% in 2016 ( $p < 0.001$ ). Of the 8933 positive CT tests (at any anatomical site), 424 (4.8%) occurred without concurrent anogenital CT (“isolated PCT”). The proportion of isolated PCT increased from 2.0% in 2010, to 6.4% in 2015 and 4.4% in 2016 ( $p < 0.001$ ). In 2016, PCT was associated with injecting drug use ( $p = 0.014$ ) and higher numbers of sexual partners ( $p < 0.001$ ), after adjusting for men who reported symptoms or were CT contacts. These factors were the same as those associated with anogenital CT infections.

**Conclusion** The likelihood of detecting CT among GBM has increased over time with by far the greatest increase in positive test yield occurring in the pharynx. The same factors were associated with CT detection at all sites. Given that most untreated PCT persists on average for 2 years, is readily transmitted to anogenital sites and that one in 20 of all CT infections would be missed, consideration should be given to routine screening of the pharynx in other countries to reduce CT transmission among GBM.

### LB3.255 HIV PREVALENCE IN HOMELESS PEOPLE IN A NORTHEAST CAPITAL OF BRAZIL

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**Introduction** The Acquired Human Immunodeficiency Syndrome is one of the main public health problems in Brazil