P293

THE POTENTIAL ROLE OF MASTURBATION IN TRANSMITTING NEISSERIA GONORRHOEAE AT MULTIPLE ANATOMICAL SITES AMONG MEN WHO HAVE SEX WITH MEN

^{1,2,3}X Xu*, ^{2,3,4}E Chow, ^{1,2,3}J Ong, ¹M Shen, ⁵C Wang, ⁴J Hocking, ^{1,2,3}C Fairley, ^{1,2,3,5}L Zhang. ¹China Australia Joint Research Center for Infectious Diseases, School of Public Health, Xi'an Jiaotong University Health Science Centre, Xi'an, People's Republic of China; ²Melbourne Sexual Health Centre, Alfred Health, Melbourne, Australia; ³Central Clinical School, Faculty of Medicine, Nursing and Health Sciences, Monash University, Melbourne, Australia; ⁴Centre for Epidemiology and Biostatistics, Melbourne School of Population and Global Health, The University of Melbourne, Melbourne, Australia; ⁵Department of Epidemiology and Biostatistics, College of Public Health, Zhengzhou University, Zhengzhou, People's Republic of China

10.1136/sextrans-2021-sti.355

Background *Neisseria gonorrhoeae* can be cultured from saliva in men with pharyngeal gonorrhoea and could theoretically be transmitted from the pharynx to the urethra when saliva is used as a lubricant for masturbation. To explore this issue, we developed mathematical models for the transmission of *Neisseria gonorrhoeae* at each of oropharynx, urethra and anorectum among men who have sex with men (MSM).

Methods Model 1 included transmission routes (oral sex, anal sex, rimming, kissing, and three sequential sex practices) we have previously validated. In Model 2, we added masturbation to model 1. In Model 3, we included masturbation but excluded the three sequential sex practices. We calibrated our data to six international studies. We evaluated the model performance using the Root Mean Squared Error (RMSE) and Cohen's d statistic.

Results Model 2 has significantly higher RMSE than model 1 (p-value <0.01 in five datasets, and p=0.47 in one dataset), but only p-values from two datasets revealed a substantially large effect (Cohen's d > 0.8) compared with Model 1. This suggests performance of Model 1 and Model 2 are similar. In contrast, Model 3 has significantly higher RMSE than both Model 1 and Model 2 (p-value <0.01 for all six datasets), and p-value revealed a large effect (Cohen's d > 0.8 for all six datasets) compared with the two models. This suggests performance of Model 3 is significantly worse than Model 1 and Model 2.

Conclusion Our findings indicate that masturbation plays a moderate role in the transmission of *Neisseria gonorrhoeae*. Our model also suggests that sequential sexual practices may be more important than masturbation for explaining the site-specific prevalence in men with multi-site infection. Our model predicted that about 1 in 4 cases of urethral gonorrhoea might arise from masturbation if it transmits gonorrhoea.

P296

DO GBMSM'S PREFERENCES FOR IN-PERSON, TELEPHONE OR DIGITAL SEXUAL HEALTHCARE VARY ACCORDING TO HEALTH CONCERNS AND SYMPTOMS? A CROSS-SECTIONAL SURVEY

¹R Kincaid*, ¹C Estcourt, ²J Gibbs, ¹J Dalrymple, ¹J Frankis. ¹Glasgow Caledonian University, Glasgow, UK; ²University College London, London, UK

10.1136/sextrans-2021-sti.356

Background As sexual healthcare moves online, it's important to understand the needs and preferences of groups with a higher burden of poor sexual health, to ensure equitable services. We explored gay, bisexual, and other men who have sex

with men's [GBMSM] preferences for in-person, telephone, and online provision of sexual healthcare and whether preferences change in the presence of symptoms and/or concerns about STI risk.

Methods Cross-sectional online survey of GBMSM in Scotland recruited from sexual-social media 12/2019–03/2020 (pre-Covid-19 pandemic). Participants were asked their preferences (or no preference) for accessing appointment booking, providing sexual/medical history, and accessing HIV/STI results in two scenarios: routine check-up (no symptoms/concerns); and concerned about new symptoms/possible infection. Data were analysed using Pearson chi-squared, McNemar-Bowker, and post-hoc McNemar tests.

Results 755 GBMSM participated, median age 39, 71.4% completed higher education, 69.9% were White Scottish. When accessing a routine check-up, proportions preferring in person, telephone and online care respectively were: booking appointments [27/755 (3.6%), 113/755 (15.0%), 520/755 (68.9%)]; reporting sexual behaviour [184/748 (24.6%), 39/748 (5.2%), 382/748 (51.1%)]; reporting symptoms [254/747 (34.0%), 46/747 (6.2%), 308/747 (41.2%)]; reporting medication [163/745 (21.9%), 46/745 (6.2%), 358/745 (48.1%)]; receiving HIV results [200/699 (28.6%), 73/699 (10.4%), 304/699 (43.5%)]; receiving STI results [143/746 (19.2%), 96/746 (12.9%), 361/746 (48.4%)]. A significant proportion of participants' preferences changed across all elements of care measured, when concerned about symptoms or infection (p<0.005). Post-hoc analyses suggest that these changes were mostly attributed to a shift in preference from online to in-person care in the presence of symptoms/STI risk.

Conclusions In this online-recruited sample of highly educated, older GBMSM, online care was highly acceptable but a significant proportion preferred in-person care in the presence of symptoms/STI risk. Choice in sexual healthcare provision is essential as GBMSM's preferences are not static and appear highly associated with emotional context.

P298

ANTIBIOTIC USE AND CHLAMYDIA INFECTION AMONG WOMEN AT REPRODUCTIVE AGE IN GUANGDONG, CHINA

^{1,2}X Sun*, ¹C Li, ¹C Wang, ¹B Yang, ^{1,2}W Tang. ¹Department of Sexually Transmitted Disease Prevention and Control, Dermatology Hospital of Southern Medical University, Guangdong, China; ²University of North Carolina Project-China, China

10.1136/sextrans-2021-sti.357

Background The overuse of antibiotics accelerates antibiotic resistance. However, limited studies assessed the antibiotic use history and its association with current chlamydia infection among women of reproductive age in China. This study aimed to investigate the recent antibiotic usage pattern and its association with current chlamydia infection among reproductive-aged women (RAW) in gynaecology clinics in Guangdong, China.

Methods We conducted a cross-sectional study to recruit women aged between 16 to 55 in Guangdong. All participants were tested for chlamydia by using Nucleic Acid Amplification Testing and finished a computer-based survey containing their self-reported antibiotic consumption in recent 12 months. We described characteristics of participants and recent antibiotic usage patterns based on two different classifications at first. Then we calculated the antibiotics usage rate and analyzed the

association between antibiotic use and current chlamydia infection through logistic regression.

Results Among 391 recruited women with a mean age of 31.51 ± 6.20 years, 41.2% (161/391) of participants self-reported that they used antibiotics in recent 12 months, and the prevalence of chlamydia incidence was 8.2% (32/391). The β -lactam antibiotics (Penicillin, Amoxicillin, ceftriaxone) were the most popular (89.4%, 144/161) among female patients, while the rate of using other antibiotics (Clindamycin, Metronidazole) was the lowest (31.7%, 51/391). Additionally, we found that age, histories of pelvic inflammatory disease and reproductive infections, and had clinical symptoms in the recent 12 months were significantly associated with antibiotic usage among RAW. Overall antibiotic use (aOR: 0.32; 95%CI: 0.15–0.94) and using antibiotics under the Access classification (aOR:0.30; 95% CI: 0.07–0.92) were negatively associated with current chlamydia infection.

Conclusion This study suggests that a high rate of recent antibiotic use and an inverse association between the antibiotic use and current chlamydia infection among RAW in Guangdong, China. Findings will provide an insight to evaluate the impact of antibiotic use on chlamydia screening.

P300 SECONDARY SYPHILIS IN PATIENTS LIVING WITH AND WITHOUT HIV IN CALI, COLOMBIA: AN IMMUNOHISTOCHEMISTRY STUDY

¹M Amórtegui*, ^{1,2}J García Luna, ³M Fiel-Gan, ^{1,2}L Ramírez, ^{4,5}K Hawley, ³P Newcom, ^{1,4,5,6}J Salazar. ¹Centro Internacional de Entrenamiento e Investigaciones Médicas (CIDEIM), Cali, Colombia; ²Universidad ICESI, Cali, Colombia; ³Department of Pathology, Hartford Hospital, Hartford, CT, USA; ⁴Department of Pediatrics, University of Connecticut School of Medicine, Farmington CT, USA; ⁵Division of Infectious Diseases, Connecticut Children's, Hartford CT, USA; ⁶Department of Immunology, University of Connecticut School of Medicine, Farmington CT, USA; ²Universidad ICESI, Cali, Colombia; ³Department of Pathology, Hartford Hospital, Hartford, USA; ⁴Department of Pediatrics, University of Connecticut School of Medicine, Farmington, USA; ⁵Division of Infectious Diseases, Connecticut Children's, Hartford, USA; ⁶Department of Immunology, University of Connecticut School of Medicine, Hartford, USA

10.1136/sextrans-2021-sti.358

Background The upsurge of syphilis cases is a public health threat, particularly in people living with HIV (PLWH). The aim of this case series was to describe the histological and immunohistochemical changes in skin lesions of patients with secondary syphilis (SS) by HIV status.

Methods Clinical data and skin biopsies from SS patients who were consented and enrolled in Cali, Colombia between 2003 and 2018 were included in the analysis. Clinical data was extracted using a standardized form. Four-micrometer sections of paraffin embedded skin biopsies were stained with haematoxylin and eosin (H&E) or labelled with antibodies to detect CD4, CD8, CD56, CD68, CD138 or *Treponema pallidum* (Tp). Data from PLWH and people without HIV (PWH) were compared using the Fisher's exact test for qualitative variables, the Student's t test or the Wilcoxon rank-sum test for quantitative variables according to their distribution. The Kruskal-Wallis test was used to compare cellular populations according to categories of Tp burden (absent, sparse or moderate to severe).

Results Of 114 subjects with SS, 28 PWH and 10 PLWH subjects had available skin biopsies. Most participants were male

(65.8%), the mean age was 27 years (range 18–60). PLWH were more likely to identify themselves as mestizo (100% vs 52%, $p=0.01$), there were no differences in age, sex, symptoms or signs of syphilis. PLWH were more likely to have acanthosis (70% vs 32%, $p=0.06$) and epidermal hyperplasia (70% vs 18%, $p=0.005$). There were no differences in other H&E findings. PLWH had lower CD4 cells in the skin ($p=0.0001$), without differences in other cellular populations or Tp positivity. There were no differences in the cell counts by categories of Tp burden.

Conclusions HIV infection was associated with non-specific epidermal hyperplasia and lower CD4 cell counts in the skin, but not with Tp positivity.

P301 ELIMINATION OF MOTHER-TO-CHILD TRANSMISSION OF HIV AND SYPHILIS IN THE MERCOSUL COUNTRIES: A GENERAL OVERVIEW

M Aragon*, C Alves, P Gaspar, G Pereira, A Miranda. Ministry of Health of Brazil, Srvvn Quadra 701, Lote D, Edifício Po700 – 5º andar, Cep70719-040, Brasília, Brazil

10.1136/sextrans-2021-sti.359

Background Mercosul (Southern Common Market) consists of four countries – Argentina, Brazil, Paraguay and Uruguay – with close economic relations in Latin America. The displacement of people within countries and across borders is frequent observed and needs surveillance and health care implementation for infections that do not recognize borders. The present study aims to presenting the HIV and syphilis overview in Mercosul countries, highlighting the vertical transmission of these diseases.

Methods We systematically collected data from Mercosul countries in the past two years through Ministry of Health websites, countries national official data and Pan-American Health Organization (PAHO) reports. We compared country data with each other and with the targets set by PAHO elimination of mother-to-child transmission (MTCT) of HIV and syphilis.

Results The HIV detection in Uruguay and Paraguay had the highest rates, with 29/100,000 inhabitants and 22.8/100,000 inhabitants, when compared to Brazil (17.8/100,000 inhabitants) and Argentina (10.3/100,000 inhabitants). Regarding the MTCT of HIV, Brazil and Uruguay are within the PAHO elimination target ($\leq 2\%$), showing rates of 1.6% and 1.5%, respectively. The syphilis rates have increased significantly in recent years, reaching 75.8/100,000 inhabitants in Brazil, 51.1/100,000 inhabitants in Argentina and 46/100,000 inhabitants in Paraguay. In Brazil, the pregnant rates were 20.8 pregnant women per 1,000 live births (LB) in 2019. The goal of eliminating congenital syphilis ($\leq 0.5/1,000$ LB) was not achieved by any country, with Paraguay having the highest rate (17.9/1,000 LB), followed by Brazil (8.2/1,000 LB), Argentina (1.55/1,000 LB) and Uruguay (1.4/1,000 LB).

Conclusions Official national standardization data is an important tool for planning joint actions. These data indicate the need to maximize strategies, especially related to congenital syphilis prevention. Also they reinforce the importance of political commitment from the Ministries of Health and international cooperation for the elimination of MTCT in Mercosul.