P313 SEXUAL MIXING PATTERNS BY BISEXUALITY AMONG MALE-FEMALE PARTNERSHIPS IN MELBOURNE, AUSTRALIA

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10.1136/sextrans-2021-sti.368

Background Past studies have shown that sexually transmitted infections (STI) may be transmitted across different high-incidence populations in Australia. Bisexual individuals have a higher likelihood of STI transmission between different populations due to their sexual practices. This study aimed to explore the sexual mixing patterns by bisexuality among male-female partnerships attending a sexual health clinic in Melbourne, Australia.

Method We analysed all male-female partnerships attending the Melbourne Sexual Health Centre (MSHC) together over a 5-year period from 2015 to 2019. Gender and number of sexual partners were collected via computer-assisted self-interview (CASI). We calculated the proportion of partnerships where at least one individual reported bisexual activity (i.e., having both same-sex and opposite-sex partners in the previous 12 months).

Results A total of 2112 male-female partnerships (i.e. 4224 individuals) were included with a median age of 27 years (IQR 23–31) and 37.5% (1584/4224) were born in Australia. Overall, 89.3% (1885/2112) of male-female partnerships were heterosexual partnerships where both individuals only had opposite-sex partners; however, there were 9.5% (201/2112) of partnerships where one of the individuals was bisexual, and 1.2% (26/2112) of partnerships where both individuals were bisexual. These proportions did not change between 2015–2019. Bisexual men had a higher number of casual sex partners than heterosexual men (median=5 vs 1; $p<0.001$). Similarly, bisexual women had a higher number of casual sex partners than heterosexual women (median=6 vs 1; $p<0.001$).

Conclusion One in 10 male-female partnerships had at least one individual who reported bisexual sexual activity within the previous 12 months, and bisexual individuals had more casual sex partners than heterosexual individuals. The sexual mixing by bisexuality in male-female partnerships may have significant impact on STI transmission in the heterosexual populations.

P314 RISK OF INFERTILITY IN RELATION TO CHLAMYDIA AND PELVIC INFLAMMATORY DISEASE: A CASE-CONTROL STUDY IN CHINESE POPULATION

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10.1136/sextrans-2021-sti.369

Background Chlamydia trachomatis and pelvic inflammatory disease (PID) are well-known risk factors for female infertility. But there are limited evidence from China. This study aimed to estimate the association between previous/current chlamydia infection, PID and infertility in Chinese population.

Methods We performed a 1:2 matched case-control study with two control groups: pregnant controls and non-pregnant controls in China in 2019. Women diagnosed with infertility were selected as cases ($n=255$). Controls were selected based on the following criteria: Pregnant women who were documented in the selected hospitals of the study cities were selected as Pregnant controls ($n=510$), and people who sought for health care in Obstetric/Gynecologic clinics, Family Planning clinics, Dermatology & STD Department or Urological department for the first time in the past one year were selected as Non-pregnant control ($n=510$), reported ever having sexual intercourse and willing to be tested for chlamydia. Infertility induced by male factors and people who used antibiotic in vagina within two weeks were excluded. First-stream specimen of urine samples were tested for chlamydia by nucleic acid amplification testing (NAAT). Conditional logistic regression was used to estimate the association.

Results The prevalence of previous chlamydia infection and PID were significantly higher in cases (2.4%, 17.3%) than in controls (Non-pregnancy: 0.4%, 3.0%; Pregnancy: 0.4%, 9.0%). The current chlamydia infection rates were 5.9%, 7.3% and 7.1% in infertile, pregnant and non-pregnant women, respectively. After adjusting for maternal age, BMI, monthly income, chronic disease and other genital tract infection, PID largely elevated the risk of infertility (Non-pregnancy: adjusted OR=2.41, 95% CI: 1.47, 3.95; Pregnancy: adjusted OR=6.67, 95% CI: 3.42, 12.98), while past chlamydia infection was marginally associated with infertility.

Conclusion Previous chlamydia infection was marginally associated with infertility, while previous PID was indicated to largely elevate the risk of infertility.

P315 INCREASED CLINICIAN CONFIDENCE AND UPTAKE OF EVENT-BASED PREP BY MEN WHO HAVE SEX WITH MEN DURING THE COVID-19 PANDEMIC

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10.1136/sextrans-2021-sti.370

Background HIV pre-exposure prophylaxis (PrEP) is an effective, safe strategy to prevent HIV. PrEP can be used either daily or as an event based dosing (EBD) regimen by men who have sex with men (MSM) having condom-less anal sex, however clinicians with expertise delivering daily PrEP often lack confidence delivering EBD-PrEP. During the COVID-19 pandemic, MSM appear to have tailored their sexual behaviour in-line with local social restrictions including the way they use PrEP.

Method We aimed to investigate the proportion of MSM using EBD-PrEP between October-December 2020 and to survey clinician confidence in delivering EBD-PrEP through an online questionnaire.

Results 551 MSM were seen who were eligible for PrEP in the study period, of which 448 were prescribed PrEP (64-declined, 2-stopped, 8-new patients and 29-repeat attendees accessed PrEP from another source). The median age of PrEP users was 37 years (IQR=29–48). Overall, 94/448 (21%, 95% CI=17–25) of MSM were using EBD-PrEP. New starters were significantly more likely to use EBD-PrEP compared to existing PrEP users (34% v. 13%, $\chi^2=27.6$, $p<0.00001$). There was no significant difference in age between daily and EBD-PrEP

users (37years. v.41years, $p=0.2$). There were 33/38 clinicians who responded to the online survey. Clinicians felt equally confident at delivering daily PrEP as EBD-PrEP (Likert scores=4.4/5 v 4.2/5, $p=0.2$). However, potential barriers identified to providing EBD-PrEP by clinicians were; assessing which MSM would be suitable for using EBD-PrEP, having access to appropriate information for patients to support their understanding of using EBD PrEP; and clinician knowledge and belief in the efficacy of EBD-PrEP.

Conclusion The uptake by MSM and clinician confidence in discussing EBD-PrEP appears to have increased since the start of the COVID-19 pandemic. Giving MSM greater choice in how PrEP is used will optimise its effect on reducing HIV transmission. More research is needed to support both MSM and clinicians to deliver EBD-PrEP.

P316 COULD NUMBER OF PARTNERS BE A RISK FOR ANTIMICROBIAL RESISTANCE? HIGHER MACROLIDE CONSUMPTION AMONGST A CORE GROUP OF PREP USERS

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10.1136/sextrans-2021-sti.371

Background A core group of men who have sex with men (MSM) may sustain the high sexually transmitted infection (STI) prevalence among HIV-PrEP users. Regular gonorrhea/chlamydia screening/treatment in this core group might reduce STI prevalence, but also augments antimicrobial use. Macrolides in particular affect the resistome and may enhance the spreading of antimicrobial resistance. Using data from a single-center randomized clinical trial in our clinic we aimed to assess if PrEP-users with multiple sexual partners used more macrolides than others.

Methods Between April 2019 and June 2020, 343 PrEP users participated in a trial that assessed if an antiseptic mouthwash could prevent bacterial STIs (NCT03881007). During 3-monthly study visits participants reported their number of casual partners and underwent gonorrhea/chlamydia screening/treatment at the oropharynx, anorectum and urethra. Macrolide use, expressed as defined daily doses per 1000 individuals per day (DID) was compared between individuals with maximum ten versus more partners per three months.

Results Participants (median age 40.0, IQR 32.0–48.0) contributed for 203.0 person-years. They had a median of 10.0 (IQR 5.6–20.0) partners per three months. Bacterial STI incidence (gonorrhea + chlamydia + syphilis) was 126.6 per 100 person-years. Overall macrolide use was 8.48 DID. Macrolide consumption correlated weakly with number of partners (spearman's rho 0.18, $p<0.001$). Half (48.5%) of the participants had more than ten partners per three months and accounted for 60.3% of bacterial STIs. At 10.39 DID their macrolide consumption was 1.62 times (95% CI 1.38 – 1.91) that of participants with less partners (6.42 DID) and three times (2.97, 95% CI 2.69–3.27) that of the 2019 general Belgian population (3.50 DID).

Conclusion PrEP users that undergo 3-monthly gonorrhea/chlamydia screening use a multitude of the macrolides used by the general population. Especially those with over ten 3-

monthly partners may be at risk to carry and spread antimicrobial resistance.

P317 USING THE HEALTHCARE-OP TOOL TO EVALUATE THE OVERALL COST OF INTRODUCING AN ONLINE SERVICE FOR STI AND HIV SELF-SAMPLING

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10.1136/sextrans-2021-sti.372

Background Online services for STI and HIV self-sampling are increasingly being adopted by sexual health services (SHSs). Exploring the impact on overall cost of introducing a new service can be challenging. We developed a simple costing tool (Healthcare-OP) for use by clinicians and managers to support business case preparation for introducing a new service. Healthcare-OP was used to examine the impact on overall cost for the introduction of an online STI and HIV self-sampling service for asymptomatic clients attending our SHS.

Methods Client care-pathways were categorised into 16 types based on clinic workflow and estimated duration of consultation. Each pathway was broken down into discrete 'processes,' which were costed based on healthcare professional time and costs of tests/consumables. The probability of clients entering each care-pathway and transitioning between 'processes' in Healthcare-OP was estimated using 12 months electronic patient record data. Costs were derived from national pay scales and literature. The model did not include costs which remain the same before and after the introduction of online self-sampling service (e.g. diagnostic costs when the service is provided in-house). When the diagnostic tests are provided externally via a commercial provider, we assumed that only 30% or 50% of the test costs (marginal costs) could be released by microbiology.

Results The average weekly staff cost for managing 227 male and 237 female clients was £3104 and £3075, respectively. 50% of 76 male and 78 female asymptomatic clients using the online self-sampling services resulted in: a weekly cost saving of £261 and £49 respectively when provided in-house, and ranged from a weekly cost saving of £103 to an additional £241 for male pathways and an additional £126–£479 for female pathways when provided externally.

Conclusions The introduction of online-based self-sampling for asymptomatic patients may reduce the overall cost when provided in-house but not externally.

P318 FREQUENT DETECTION OF SHIGELLA IN MSM ALSO IN THE ABSENCE OF CLINICAL SYMPTOMS

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10.1136/sextrans-2021-sti.373

Introduction Shigellosis can present as a severe infection, including bloody diarrhea. About 22% of reported shigellosis