P378 A WIDE VARIETY OF INTRAVAGINAL PRACTICES SHOULD BE CONSIDERED IN RESEARCH STUDIES IN RURAL SOUTH AFRICA

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Background The vaginal microbiome and genital tract inflammation play an important role in HIV transmission and birth outcomes in South Africa. Intravaginal practices (IVPs) such as cleansing may influence the microbiome and levels of inflammation. IVPs are commonly practiced by women in South Africa, however, studies generally only include collection of data on cleansing and insertion of herbs.

Methods We conducted an exploratory study to obtain insight in the variety of IVPs practiced by women in the rural Eastern Cape province of South Africa. Group discussion was held with participants (n=10) in an STI workshop and additional information was obtained through snowballing. Participants were two medical doctors, two project managers, two nurses, and four counsellors/social workers. IVPs that participants were aware of or had heard about were recorded.

Results Other than intravaginal cleansing and insertion of herbs, participants had knowledge of women inserting a variety of substances in their vagina such as snuff (tobacco powder), ice cubes, toilet refresher, Chinese pills, uvutha wabafazi (a traditional vaseline-like ointment), Indian holy ash, soft drinks and Vicks VapoRub. Intravaginal use of live organisms (Kombucha aka Amoeba mabhebeza, frogs and snakes) was also known. In addition, genital steaming practice is common using water with salt, onion, avocado seeds, guava leaves. Finally, external and internal sanitary packs created of potato sack or newspaper are used. The purpose of all these practices was to enhance male sexual pleasure, genital health, for sexual fortune and energy, and for traditional healing purpose.

Conclusion Studies of genital tract microbiome and inflammation in women in rural South Africa should take a wide range of IVPs into account. Further research is required to document the frequency and geographic spread of these practices, and their impact on genital health.

P379 PERFORMANCE CHARACTERISTICS OF THE PLEXPCR® VHS ASSAY FOR DETECTION OF TREPONEMA PALLIDUM AND OTHER PATHOGENS IN GENITAL AND EXTRAGENITAL LESIONS

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Background Syndromic management for STIs can result in treating for several pathogens, which can lead to mistreatment

and/or overtreatment. We implemented the PlexPCR® VHS, a qualitative real-time PCR assay for simultaneous detection of four pathogens: *Treponema pallidum* (TP), herpes simplex virus (HSV) types 1/2, and varicella zoster virus (VZV) in genital and extragenital lesions of STI-clinic users diagnosed with early syphilis.

Methods We enrolled patients presenting early syphilis in Lima and Pucallpa, Peru. From any lesions, we collected lesion exudate with a dacron swab in a microtube with 500µl of lysis buffer, followed by DNA extraction and amplification using a conventional PCR assay to detect tp0574 and tp0548 target genes for TP. DNA samples were also amplified using the PlexPCR® VHS kit (SpeeDx, Australia). We assessed the performance of the PlexPCR® VHS kit TP component and conventional PCR compared to clinical diagnosis.

Results We screened 51 lesions, most (86%) from patients with primary syphilis, 17% were atypical syphilis lesions (painful ulcers). PlexPCR® VHS detected only TP among 31/51 (61%), only HSV-2 among 7/51 (14%) and four (8%) co-infections (two of HSV-1/TP and two of HSV-2/TP). Nine (17%) were negative for all pathogens (four without detectable DNA) and none were VZV positive. The PlexPCR® VHS kit detected TP in 35/51 (69%) lesions compared to 29/51 (57%) detected by conventional PCR, indicating the percent agreement with clinical diagnosis. Among the nine atypical lesions, PlexPCR® VHS found four TP positive and three HSV-2 positive, while conventional PCR detected only three TP positive. Among the cases of primary syphilis, 32/44 (73%) had detectable TP DNA using PlexPCR® VHS and 27/44 (61%) using conventional PCR.

Conclusions The PlexPCR® VHS kit increases the accuracy of TP detection from lesion samples. Other STI pathogens were also detected in lesions.

P381 ESTIMATING ADULT GONORRHEA PREVALENCE IN BRAZIL

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Background Brazil has a nationwide antimicrobial susceptibility surveillance program for *Neisseria gonorrhoeae*. Gonorrhoea, however, is not a notifiable disease and there are limited data on the burden of infection in the country.

Methods We searched Embase PubMed, LILACS, Scielo for studies in any language providing data on the prevalence of urogenital gonorrhoea in 2000 or later in Brazil, with a sample size of 50 or more, and that used an internationally recognized diagnostic test on urine, urethral, or cervicovaginal specimens. The latest search was done on 10 November, 2020. In addition, we searched abstracts from the Brazilian STI congress (years 2010 to 2019) and Ministry of Health reports. The Spectrum-STI statistical model was used to estimate prevalence trends in 15–49 years-old men and women in the general population (excluding STI patients, HIV-positive populations and Transgender women). Prevalence trends were estimated for sexually active women and men, female sex workers and men who

have sex with men. For populations with 3 or fewer prevalence data points Spectrum-STI uses time constant prevalence ratios from the WHO 2016 global STI estimates. Population size estimates were from Brazil's National Survey of Knowledge, Attitudes and Practices of HIV and other STIs (PCAP-2013).

Results We identified 48 studies that met the study entry criteria providing 47 data points for women and 7 for men. After excluding studies done exclusively in HIV positive individuals or individuals seeking STI treatment we had 29 data points for women and 6 for men. The Spectrum-STI national prevalence estimate for 2020 for adult women was 0.63%(0.13–2.23) and for men 0.70%(0.16–2.44).

Conclusion The prevalence of urogenital gonorrhoea in Brazil appears to be low. Data on the prevalence in men, however, are very limited. The results from this study are being used to inform the design and prioritization of new surveillance surveys.

P382

HIGH PREVALENCE OF MACROLIDE AND QUINOLONE-RESISTANCE MEDIATING MUTATIONS IN MYCOPLASMA GENITALIUM AMONG GAY AND BISEXUAL MEN (GBM) IN MONTRÉAL, CANADA

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Background Mycoplasma genitalium (MG) easily develops resistance to azithromycin and moxifloxacin, currently recommended first- and second-line treatments, respectively. Population-based data on prevalence of MG resistance mutations (macrolide and fluoroquinolone) are lacking. We estimated this prevalence among GBM.

Methods The Engage study used respondent-driven sampling (RDS), to recruit sexually active cisgender and transgender men, ≥16 years. Participants completed a computer-assisted self-interview. Pharyngeal, urine and rectal specimens collected at cohort study visits between 11/2018–11/2019 were analyzed using Seegene Allplex™ CT/NG/MG/TV assay. MG positive samples were further analyzed using Seegene Allplex™ MG & AziR and Allplex™ MG & MoxiR assays.

Results MG infection was detected in 44/717 participants. Resistance assays were performed on samples from 41 participants; median age=31yrs, 78% identified as gay, 17% were HIV-positive, and 20% reported C. trachomatis or N. gonorrhoea infection over the past 6 months. Information on symptoms at study visit was available for 33 participants; all were asymptomatic. Sites of infection were rectum (n=23), urethra (n=16) or pharynx (n=2). Macrolide-resistance mediating mutations (MRMM) in 23S rRNA gene were found in 31 samples (A2058G, n=4; A2059G, n=27); 6 were wild-type

and 4 failed to amplify MG. Prevalence of MRMM was 31/37 (84%). Quinolone-resistance mediating mutations (QRMM) in parC gene were found in (G248T, n=10; G248A, n=1; A247C, n=1); 25 were wild-type and 4 failed to amplify MG. No QRMM in gyrA gene was found. Prevalence of QRMM was 12/37 (32%). Combined mutations in 23S rRNA and parC genes was found in 11/35 MG-positive samples (31%).

Conclusions Among asymptomatic MG-infected GBM in Montreal, almost one-third were infected by MG strains harboring resistance mutations to both antibiotics currently used to treat symptomatic infections. It is important that clinicians be aware of this high level of circulating resistance, have increased access to MG testing, and adjust their treatment strategies accordingly.

P383

IS SYNDROMIC MANAGEMENT APPROACH OF STI ADEQUATE AMONG HIV POSITIVE KEY POPULATION? SYSTEMATIC DATA REVIEW IN NAIROBI KENYA

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Background Sex workers Outreach Program (SWOP) is an STI/HIV research center serving 35000 female sex workers (FSW) through outreach services with 18000 seek HIV/STI services from the seven SWOP facilities spread across Nairobi Kenya. Program analysis showed high use of STI syndromic management antibiotics compared to budgetary allocations. This study was done to identify the gap

Methodology Systematic data review of HIV positive FSW attending SWOP clinics and having been treated STI through syndromic management was done for the last two years 2020 and 2019. Data was pulled for all female sex workers who had been managed for STI syndromically, HIV status was checked and those who had a HIV diagnosis were retained in the study data base (this is because the HIV positive frequent the sites at least four times in a year compared to HIV negative FSW) Data was then separated into one time STI treatment and revisits with the same signs and symptoms for more than once in one year. Data on consistence condom use was also extracted

Results Out of the 17,900 Female sex workers accessing SWOP facilities for key population services, 3038(16.9) were HIV positive. Of this HIV positive at least 4% (122) were treated for STI through syndromic management with highest 66% (81) reporting low abdominal pains with vaginal discharge. 52% (64) come back with same symptom twice of which 79%(51) reported consistent condom use, while 23% (15) come back at least more than twice with the same complaints within a year with 89% reporting consistent condom use.

Conclusion Given the nature of work, female sex workers have a high possibility of STI misdiagnosis. Hence countries should strive to invest in laboratory screening of STI among female sex workers to improve on correct diagnosis and treatment to reduce unnecessary use of antibiotics