P3.221 HIGH LEVELS OF SUSCEPTIBILITY IN *NEISSERIA GONORRHOEAE* ISOLATES FROM SASKATCHEWAN CANADA (2003–2015) TO NEW AND OLDER ANTIBIOTICS USED FOR TREATMENT

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Introduction Antibiotics should have an efficacy of at least 95% for treating infections caused by *Neisseria gonorrhoeae* (Ng). When more than 5% of Ng isolates are resistant to an antibiotic, treatment guidelines must be changed to a more effective antibiotic. Trends in the antimicrobial susceptibility (AMS) of Ng isolates from Saskatchewan, Canada were ascertained (2003 – 2015) to ascertain whether older antimicrobials might be effective.

Methods The susceptibility of 685 Ng isolates to 7 antibiotics was determined by the agar dilution method. β -lactamase production was determined using nitrocefin.

Results From 2006–2012, penicillin resistance was below 5% (0%–4.0%) of Ng isolates tested. Penicillin resistance above 5% occurred in 2003 (6.7%), 2004 (6.8%), 2005 (11.5%), 2013 (27.5%) and 2014 (13.5%). Tetracycline resistance remained above 5% (11.8% to 89.1%) of Ng tested throughout the study. Ciprofloxacin resistance ranged between 0% and 1.9% of isolates tested up to 2009 but was over 5% thereafter. All isolates were susceptible to spectinomycin. Over 95% of Ng isolates tested were susceptible to azithromycin except in 2010 (27.6% resistant; 8/29) and 2013 (7.2% resistant; 5/69). Twelve (1.8%) isolates over the period showed reduced susceptibility to cefixime (2006 - 1/55; 2012 - 2/50; 2013 - 4/69; 2014 - 2/89; 2015 - 1/63) and/or ceftriaxone (2012 - 2/50). One isolate was resistant to both azithromycin and cefixime.

Conclusions Cases of gonorrhoea in Saskatchewan (>95%) are diagnosed by nucleic acid testing with no AMS testing. Our research showed that many no-longer recommended antibiotics (penicillin, ciprofloxacin) were still effective over many years. Even with the recent higher percentages of Ng isolates resistant to penicillin and ciprofloxacin, ~87% of Ng in the province remains susceptible to these antibiotics. The development of NAATs to test for AMS would enhance knowledge of true levels of resistance and allow discretion as to whether older but still effective antibiotics could be used in individual patient care.

P3.222 FACTORS ASSOCIATED WITH MATERNAL-CHILD TRANSMISSION OF HIV-1 IN SOUTHEASTERN BRAZIL: A RETROSPECTIVE STUDY

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Introduction Mother-to-child transmission (MTCT) is the main mode of acquisition of HIV-1 among young children worldwide. In Brazil, the southeast region is the geographical area that reports the majority of MTCT cases. The goals of this

study were to estimate the rate of HIV MTCT and to identify factors associated with MTCT in Espírito Santo State, in southeast Brazil.

Methods This study was a review of the data from the Brazilian National Information on Reportable Diseases System (SINAN) for HIV-infected pregnant women and for AIDS among children under 13 years old. The study population was comprised of all HIV-infected pregnant women reported to SINAN in the State of Espírito Santo, Brazil between January 1, 2007 and December 31, 2012.

Results A total of 470 women were included in the study. The proportion of MTCT during this period was 14.0% (95% CI 10.9–17.0). In a multivariable logistic regression model incorporating the significant covariates identified in bivariate analyses, women who had less than primary school education had increased odds of MTCT (OR=2.64; 95% CI 1.34–5.22) compared to women with more than primary school education. Emergency caesarean delivery was associated with increased odds of MTCT (OR=4.40; 95% CI 1.12–17.08) compared to vaginal delivery. In addition, pregnant women who did not receive ART during prenatal care had higher odds of MTCT (OR=2.21; 95% CI 1.10–4.47) compared to pregnant women who received ART during prenatal care.

Conclusion Health information systems can provide the basis for monitoring and analysing the health situation in municipalities and states, with a view towards health planning and management. This study identified a high rate of HIV MTCT in Espírito Santo State and effort should be made to encourage health care workers and pregnant women to use MTCT prevention services.

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P3.223 ANTIMICROBIAL SUSCEPTIBILITY PROFILE OF *NEISSERIA GONORRHOEAE* DETECTED IN A PUBLIC HOSPITAL IN BUENOS AIRES, ARGENTINA

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Introduction Gonococcal disease is one of the most common bacterial sexually transmitted infections in the world. The emergence of antimicrobial resistance of *Neisseria gonorrhoeae* (Ng) to the first-line antimicrobial agents already compromise treatment effectiveness and control of Ng infections. The aim of this study was to know the susceptibility profiles of Ng isolates and clinical features of the patients treated at a public hospital located in the suburbs of Buenos Aires.

Methods We studied 40 isolates of Ng recovered between 2014 and 2015 by the laboratory of bacteriology, from patients attending to the STD office of Eva Perón Hospital. Minimum inhibitory concentrations (MICs) were determined for penicillin (PEN), tetracycline (TET), ciprofloxacin (CIP), azithromycin (AZI), cefixime (CFX) and ceftriaxone (CRO) by agar dilution method (CLSI). B-lactamase was performed by chromogenic cephalosporin method (Nitrocefin).

Results Isolates were recovered from: urethra (36), endocervix (3) and conjunctiva (1). Results of MIC 50 and MIC 90 ($\mu\text{g/ml}$) were: PEN 0.5 and 4; TET: 1 and 32; CIP: 1 and 4; AZI: 0.25 and 0.5; CFX: 0.016 and 0.03; CRO: 0.008 and 0.016. Isolates with combined resistance to CIP-AZI-PEN, PEN-TET-CIP and CIP-TET-AZI were observed. Cephalosporin resistant Ng isolates was not observed although 2 isolates with decreased susceptibility to CFX (MIC 0.125 $\mu\text{g/ml}$) were found. The patient medical records were reviewed and no epidemiological relation was found among the patients with harbour strains with simultaneous resistance and clinical features. Patients were treated with CRO 500 mg IM plus AZI 1 g. The post treatment clinical controls were negative.

Conclusion The finding of Ng strains with decreased susceptibility to third generation cephalosporins is a warning signal. In addition to this, the presence of isolates with resistance to different classes of antibiotics, support the need to strength surveillance studies, evaluate treatment failures and improve prevention strategies to control of gonorrhoea in our population.

P3.224 PARTNER NOTIFICATION AND PARTNER TREATMENT FOR CHLAMYDIA: ATTITUDE AND PRACTICE OF GENERAL PRACTITIONERS IN THE NETHERLANDS

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Introduction: *Chlamydia* prevalence remains high despite scaled-up control efforts. In the Netherlands, the majority of chlamydia patients are seen by general practitioners (GPs). Partner notification (PN) and partner treatment (PT) are addressed in GP guidelines but may not be fully covered in daily practice. As part of a larger research project into the potential of direct partner treatment for chlamydia (PICC-UP: Patient Initiated Contact treatment for Chlamydia), we investigated current practice and attitude of GPs towards PN/PT.

Methods Multiple data-sources were combined. First, we collected information on current practice via two short questionnaires around a national GP conference: a pre-conference survey (n=1411) and a handout one on location (n=271). Furthermore, quantitative data on (potential) PT were obtained from prescriptions in electronic patient data from 311 practices in the NIVEL Primary Care Database and from additional data on STI consultations in a subgroup of 45 sentinel practices. Finally, we obtained more insight into GPs' attitude towards PN/PT in a vignette study among GPs in the same network (n=268).

Results In the questionnaires, the large majority of GPs (>95%) indicated to discuss PN of current and ex-partner(s) with chlamydia patients. Usually, GPs leave further steps to the patients (83%); partners are rarely treated directly (4%), except when partners are registered in the same practice (16%). Of all prescriptions of Azithromycin linked to chlamydia episodes, 2% were double dosages, presumably for PT. At

STI consultations, the partners of 6/100 chlamydia patients were treated directly, either via partner prescription or double doses for the index patient. Test-results were communicated over the telephone in two thirds of chlamydia diagnoses, limiting the options for PN/PT. In the vignette study, the GPs' attitude appeared to be more open to PT than in current practice: 16%–20% of GPs indicated willingness to provide direct PT, depending on patient/partner profile; a larger group (24%–45%) would prescribe treatment for an (unseen) partner if the patient could notify him/her first. Advantages of direct PT given by the GPs were: better transmission control because of a higher chance to treat partners (at the same time), easier, cheaper. Disadvantages mentioned were: no chance to talk and give advice to partners, over-treatment, leading to resistance, impact on patient-GP relation and privacy. GPs were concerned about prescribing antibiotics for a patient they have not seen. The opinion of 10% of GPs was that direct PT should be possible for partners of all chlamydia patients, 21% thought for many, others only for some or by exception, while 11% was not in favour of it at all.

Conclusion At present, GPs in the Netherlands rarely treat partners of chlamydia cases directly, except for partners registered in the same practice. GPs may be open to options for direct PT, provided there are clear guidelines to arrange this legally and practically.

P3.225 NEISSERIA GONORRHOEAE BACTERIAL LOAD DIFFERS BETWEEN SAMPLE SITES

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Introduction To date, there is limited data on *Neisseria gonorrhoeae* (NG) bacterial load in relation to transmission and symptoms of NG infection. Also, extra-genital sites are not often tested apart from specific risk groups. This could lead to untreated infections that potentially facilitate transmission of NG. In this study we describe the NG bacterial load in relation to sample site, sexual orientation, and age.

Methods Routine diagnostics samples of the STI clinic of the South Limburg Public Health Service between 2012 and May 2016 were used. In this period, 1141 samples (883 male and 258 female) from 836 patients were NG positive, among which 237 urine samples, 130 genital swabs, 394 anorectal swabs, and 380 oropharyngeal swabs. Bacterial load was determined by interpolation of a standard curve using the COBAS 4800. Multiple linear regression was used to describe bacterial load in which sample site, sexual orientation, and age were the determinants.

Results In 471 of 629 (74.9%) patients with an extra-genital NG positive sample, only the extra-genital sample was positive, among these were 367 men who have sex (MSM) with men, 34 heterosexual men (HSM), and 70 women. Most patients were positive at a single sample site, 221 oropharyngeal (130 MSM, 32 HSM, and 59 women) and 165 anorectal respectively (154 MSM, 2 HSM, and 9 women). Sample site and age were significant determinants for load (both $p < 0.001$), in contrast to sexual orientation ($p = 0.096$). When