have a slightly higher reduction of alcohol consumption over time.

Conclusion Motivational Interviewing proved an acceptable intervention for the nurse practitioner and this cohort of patients. A number of implications for practice were identified including improvements to patient clinical assessment practices and the provision of a MI intervention for alcohol reduction.

P05 - Antimicrobial resistance

P05.01 DRUG TARGET TO INHIBITOR (DT2I) APPROACH OF COMBATING INCREASING DRUG RESISTANCE IN *NEISSERIA GONORRHOEAE*

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Introduction *Neisseria gonorrhoeae* is an etiologic agent of one of the most common sexually transmitted disease in humans. The continuous rise of *N. gonorrhoeae* infection worldwide accompanied by rapid emergence of multidrug-resistant and hypervirulent strains has necessitated the search for novel drug targets and their inhibitors. The present study is undertaken to screen inhibitors against the novel drug targets of N. gonorrhoea.

Methods The putative therapeutic targets in *N. gonorrhoeae* were identified by *in silico* approach which encompassed similarity search between pathogen and host, essentiality study using the database of essential genes and metabolic functional association study using Kyoto Encyclopaedia of Genes and Genomes database. Virtual screening of inhibitors against the major candidate therapeutic targets was further carried out using docking analysis. *In vitro* protein inhibitor binding assays are proposed for the best docked compounds.

Results The study identified various promising drug targets which are non-homologous to human proteins, essential for the pathogen and present in important pathogen-specific pathways. The peptidoglycan biosynthesis pathway is the highest donor to the list of candidate target proteins followed by the two component system. Homology model of one of the identified potential targets from both these pathways, namely, glutamate racemase (product of murI gene) from peptidoglycan biosynthesis pathway and NarL protein from two component system, was constructed. Subsequently, by means of virtual screening approach, potential inhibitors from small molecules databases were predicted against both these targets. Identified inhibitors possesed better docking scores and stronger binding affinity with the target molecules compared to known inhibitors and natural substrate of these proteins. These novel compounds may facilitate the development of new drugs to combat increasing drug resistance associated with *N. gonorrhoeae*.

Conclusion Potential inhibitors predicted against *N. gonorrhoeae* in the present study opens new avenues for the treatment option against multidrug resistant strains.

Disclosure of interest statement There is no conflict of interest.

P05.02 *NEISSERIA GONORRHOEAE* STRAIN TYPES AND ANTIBIOTIC SUSCEPTIBILITY

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Background Molecular surveillance of *Neisseria gonorrhoeae* will help in understanding the transmission patterns of the infection and the acquisition/development of antibiotic resistant strains. We aimed to determine the antimicrobial resistance (AMR) and the genotypes of the *N. gonorrhoeae* isolates.

Methods Of a total of 287 *N. gonorrhoeae* isolates the minimal inhibitory concentration (MIC; mg/L) of penicillin, tetracycline, ciprofloxacin, ceftriaxone, azithromycin, spectinomycin and cefixime was determined employing the gold standard agar dilution method. β-lactamase production was detected using nitrocefin solution. The sequence types (STs) of the isolates was obtained using the NG-Multi Antigen Sequence Typing (NG-MAST) method.

Results All isolates were susceptible to ceftriaxone, spectinomycin, and cefixime. Resistance to ciprofloxacin, tetracycline, penicillin, and azithromycin was 50.9%, 46.3%, 26.5%, and 2.4% respectively. A total of 10.8% of the strains produced β-lactamase. Overall 74 STs were determined. Five STs made up for 50.3% of all the isolates: ST2992 (19.8%); ST1407 (9.7%); ST2400 (7.6%); ST387 (7.3%); ST2212(5.9%). ST387 was isolated in heterosexuals only and ST2400 and ST2992 in mainly men having sex with men. All ST387 were susceptible to all tested antibiotics with 95.2% of the strains having a MIC of 0.001 mg/L for ceftriaxone. All ST2992 were susceptible to ciprofloxacin and all ST1407, ST2212, and ST2400 were resistant. The median MICs for ceftriaxone were 0.03 μg/ml for ST1407, ST2212, and ST2400 and 0.008 μg/ml for ST2292. None of the five STs showed β-lactamase activity.

Conclusions Associations were found between antibiotic susceptibility and sequence type. The most important finding is the absolute susceptibility to the tested antibiotics of ST387, which was identified in heterosexuals only. Our preliminary results are very promising. However, more research is needed to further optimise the NG-MAST method for its use in predicting AMR and in molecular surveillance. Ultimately the method should be applicable directly on biological specimens.

Disclosure of interest Nothing to declare.

P05.03 PERFORMANCE OF TWO ENZYME AND ONE STRIP IMMUNE ASSAY FOR THE DETECTION OF IGM ANTI-*TREPONEMA PALLIDUM* ANTIBODIES

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Background The detection of anti-*Treponema pallidum* (Tp) IgM may be useful in the diagnosis of very early syphilis, re-infection and in the assessment of the newborn. We aimed to evaluate two enzyme and one strip immune assay for the detection of anti-Tp IgM in blood specimens.

Methods A total of 33 blood specimens collected from 16 patients presenting with a syphilitic ulcer were analysed. The specimens were tested employing: Rapid Plasma Reagin; *Treponema Pallidum* Particle Agglutination (TPPA); recomLine Treponema IgM (Mikrogen Diagnostik); recomWell Treponema IgM (Mikrogen Diagnostik); Anti-*Treponema pallidum* ELISA -IgM (Euroimmun). Ulcer specimens were tested by qPCR. A specimen was considered positive for anti-Tp IgM when both TPPA and IgM, obtained with any of the assays, were positive.

Specimens containing antibodies against Epstein Barr Virus, Leptospira sp, Borrelia sp, Plasmodium sp, Herpes Simplex Virus 1 and 2 and specimens from pregnant women were tested with the three IgM assays to determine cross reactivity.

Results Anti-Tp IgM was found in 22/33 specimens. The recomLine assay detected 17/22 (77%), the recomWell 15/22 (68%) and the Euroimmun 14/22 (64%) positive specimens. None of the three assays provided false positive results. Borderline results were obtained with the recomLine (N = 6) and the recomWell (N = 2) assay. Considering the borderline results as positive increased the detection rate to 95% for the recomLine and to 72% for the recomWell. However, two and one false positive result was then obtained with the recomLine and recomWell assay, respectively. Tp DNA was detected in 13/16 (81%) ulcer specimens. The Euroimmun assay cross reacted with malaria antibodies in one sample.

Conclusions None of the three assays showed to be highly sensitive. Surprisingly, the highest sensitivity was obtained with the recomLine assay. The sensitivity improved by defining the borderline results as positive but decreased the specificity.

Disclosure of interest The IgM assays were kindly provided by the two companies, Euroimmun and Mikrogen Diagnostik. No other funding was received for this work.

P05.04 ANTIMICROBIAL SUSCEPTIBILITIES OF PERSONS WITH GONORRHOEA AT MULTIPLE SITES ARE ACCURATELY REFLECTED BY UROGENITAL SPECIMENS

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Background Surveillance for gonococcal (GC) antimicrobial resistance is focused on susceptibilities of urogenital GC isolates. The ability of surveillance programs utilising only urogenital specimens to detect resistance in communitites could theoretically be compromised if extragenital (i.e. pharyngeal or rectal) GC infectons were more often resistant. We evaluated how GC antimicrobial susceptibilities at extragenital sites varied when compared to contemporaneously isolated urogenital infections.

Methods We determined GC agar dilution MICs for ceftriaxone, cefixime, ciprofloxacin and azithromycin in isolates from 57 participants with multisite infections in a recent multicenter GC treatment trial.

Results Extragenital infections were more common among men with male partners (MSM – 23 [19%] of 118) and women (21 [18%] of 118), than men with female partners (MSW- 13 [8%] of 169) In this study all extragenital infections in MSWwere pharyngeal while pharyngeal isolates comprised about half of extragenital infections from MSM (12\[52%] of 23) and women (14[67%] of 21, respectively).

MICs were meaningfully different (2 or more dilutions) between urogenital and extragenital sites in 9 (16%) of 57 persons (14[6%] of 228 comparisons) with multiple site infections. Ceftriaxone or cefixime MICs varied between urogenital and extragenital sites in just 2 participants while MICs for ciprofloxacin and azithromycin varied in 3 and 7 participants, respectively. Only urogenital isolates from women and MSM had significantly elevated MICs to azithromycin when patients with infections at multiple sites were compared to those with only urogenital infection. There was no consistent pattern to these differences; in 5 urogenital MICs were greater than extragenital sites while in the remaining 4 participants, extragenital MICs were greater than for urogenital sites.

Conclusions MICs for urogenital sites of infection most often reflect MICs of extragenital isolates in persons with multiple simultaneous sites of infection and are suitable for surveillance for antimicrobial resistance.

Disclosure of interest Funding for this study was provided by Melinta Therapeutics.

P05.05 *NEISSERIA GONORRHOEAE* IN INDONESIA: PREVALENCE AND ANTIMICROBIAL SUSCEPTIBILITY AMONG STI CLINICS PATIENTS IN JAKARTA, YOGYAKARTA AND DENPASAR

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Introduction In Indonesia, syndromic management is used for diagnosis and treatment of sexually transmitted infections (STIs), but this approach does not provide accurate data to assess the epidemiology of gonorrhoea and antimicrobial susceptibility of circulating *Neisseria gonorrhoeae* strains. We studied gonorrhoea prevalence and antimicrobial resistance of *N. gonorrhoeae* among patients of STI clinics in 3 large cities in Indonesia.

Methods In 2014, urogenital swabs were obtained from sexually active adults, mainly female sex workers, men who have sex with men, and male-to-female transgenders attending STI clinics in Jakarta, Yogyakarta, and Denpasar. In some patients additional rectal and pharyngeal swabs were taken. Diagnosis of *N. gonorrhoeae* infection was established by real time PCR targeting Opa genes. Culture isolates of *N. gonorrhoeae* were tested for antimicrobial susceptibility against doxycyclin, ciprofloxacin, azithromycin, ceftriaxone and cefixime by E-test™ using EUCAST breakpoints.

Results We included 764 participants: 346 (45.3%) males, 321 (42.0%) females and 97 (12.7%) transgenders (median ages 27, 30, and 38 years). In total, 800 samples were collected: 443 urethral, 321 cervical, 23 rectal, and 13 pharyngeal swabs. In 215 (28.1%) participants *N. gonorrhoeae* infection was detected by PCR. Prevalence varied significantly by gender (26.0% in males, 32.1% in females, and 22.7% in transgenders, p = 0.04); and varied significantly by city: 14.5% in Denpasar, 31.5% in Jakarta and 27.5% in Yogyakarta (p = 0.015).

Of 77 isolates tested for antimicrobial susceptibility, all were sensitive to azithromycin, ceftriaxone, and cefixime. In contrast, resistance to doxycyclin (98.7%) and ciprofloxacin (100%) was very common.

Conclusion This is the first study since 2004 describing the epidemiology of gonorrhoea and antimicrobial resistant strains in Indonesia. Prevalence of gonorrhoea is very high among STI