

Introduction Antimicrobial resistant *Neisseria gonorrhoea* (NG) is important to monitor as a potential global public health threat. The Thailand Enhanced Gonococcal Antimicrobial Surveillance Programme (EGASP) was started in November 2015 as a collaboration between the Thailand Ministry of Public Health, the US Centres for Disease Control and Prevention and the World Health Organisation. As a part of this surveillance activity, Thailand conducted an internal quality assessment (QA) of clinical and laboratory data in order to improve surveillance data quality.

Methods EGASP Thailand occurs in 2 sentinel sites: Bangrak Hospital and Silom Community Clinic at Tropical Medicine. Men with symptoms had demographic and clinical data collected as well as a urethral specimen collected for NG culture. A random selection of 10% of EGASP IDs were sampled from November 2015 to June 2016. We assessed clinical and laboratory findings using a standardised review tool that compared the EGASP database to source documents. We describe key findings from the review activities.

Results Overall, 699 specimens were collected for EGASP and 70 (10%) EGASP IDs were randomly sampled by SQL command for review. Results from the quality review included: differences in laboratory findings (6%), differences in interpretation of the clinical abstraction tool between sentinel sites (10%), missing data in the EGASP database after chart abstraction and laboratory testing (14%), differences in the recording of clinical data (19%), and differences in the recording and tracking of laboratory variables (47%). As a result of this evaluation, staff updated missing data on records sampled, conducted an overall refresher training for staff and established a new laboratory tracking process.

Conclusion EGASP Thailand is the first coordinated global project to conduct comprehensive surveillance for NG resistance from symptomatic men. An internal QA helped direct efforts to improve surveillance. Ongoing NG surveillance and periodic quality assessments help ensure high quality surveillance data.

Oral Presentation Session 13 Biomedical and Systems Biology

013.1 SURVEY OF ANTIMICROBIAL RESISTANCE IN CLINICAL *NEISSERIA GONORRHOEAE* ISOLATED OVER FOUR YEARS IN NAIROBI – KENYA

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10.1136/sextrans-2017-053264.72

Introduction Systematic antimicrobial resistance (AMR) surveillance of *N. gonorrhoea* (GC) from local to global level are being intensified to inform and design a monitoring system for its control. High-level resistance to previously recommended quinolones is widespread and decreased susceptibility to the extended-spectrum (third-generation) cephalosporin has

been report. The Gonococcus antimicrobial surveillance program (GASP) in Kenya and the region carried out a study to determine the frequency and diversity of antimicrobial resistance of GC isolates from a Sex Workers Outreach Program (SWOP) Clinic in Nairobi over a period of 4 years.

Methods The study tested 238 GC isolates from participants presenting with cervical/vaginal discharge. Samples collected were inoculated directly on modified Thayer martin media (MTM), transported to GASP Laboratories at KAVI-Institute of Clinical Research for processing by standard bacteriological procedures. Antibiotic susceptibility testing was performed using diffusion gradient method. The strains were defined as susceptible, intermediate and resistant using E-test as guided by WHO, all the findings were validated at WHO Collaborating Centre for Gonorrhoea and other STIs, Örebro University Hospital in Sweden.

Results GC isolates, 41 in 2012, 119 in 2013, 24 in 2014 and 54 in 2015 showed 100% susceptibility to cefixime, ceftriaxone and spectinomycin in four years with a mean susceptibility of 82%, 37.7%, 19.5%, 1.6% and 0% for azithromycin, erythromycin, ciprofloxacin, penicillin and tetracycline respectively. Over the period ciprofloxacin showed a rise in resistance from 56% in 2012, 58.8% in 2013, 66.7% in 2014 to 68.5% in 2015.

Conclusion Spectinomycin, cefixime, ceftriaxone, azithromycin are useful drugs, while Ciprofloxacin the most prescribed antibiotic is no longer reliable for treatment of GC in the region. Continued surveillance will enable the public health managers to modify the national treatment guidelines. Worsening GC drug resistance will compromise effective treatment and decrease disease control efforts.

013.2 MOLECULAR EPIDEMIOLOGY IN RELATION TO AZITHROMYCIN RESISTANCE IN *NEISSERIA GONORRHOEAE* ISOLATES FROM AMSTERDAM, THE NETHERLANDS, BETWEEN 2008 AND 2015 – A CASE-CONTROL STUDY

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10.1136/sextrans-2017-053264.73

Neisseria gonorrhoeae resistance to ceftriaxone and azithromycin increases, which threatens the recommended dual therapy based on these antimicrobials. We used molecular epidemiology to identify *N. gonorrhoeae* clusters, and associations with azithromycin resistance in Amsterdam, the Netherlands. *N. gonorrhoeae* isolates were selected from patients visiting the Amsterdam Sexually Transmitted Infections Clinic, from January 2008 through September 2015. We included all azithromycin resistant isolates (minimum inhibitory concentration [MIC] ≥ 2.0 mg/L), and frequency matched susceptible controls (MIC ≤ 0.25 mg/L). All isolates were tested using 23S rRNA sequencing, *N. gonorrhoeae* multiantigen sequence typing (NG-MAST), and multilocus variable-number of tandem repeat analysis (NG-MLVA). A hierarchical cluster analysis of NG-MLVA