noticeable decrease in the number of shigellosis cases was observed and subsequent water testing on 10 December 2012 showed no *E. coli*.

Conclusion: The sudden unprecedented increase in Shigella cases was likely due to contaminated potable water exposure and additional secondary cases. The investigation highlighted the necessity for continual monitoring of potable water quality and prompt corrective action to maintain a safe water supply in the district. The efficient, timely outbreak response resulted in appropriate public health interventions and underscores the value of a well-functioning DORT and NOU-DORT collaboration within the South African public health context.

Type: Poster Presentation

Immunological markers of poor adherence to antiretroviral therapy among HIV-infected adults at Themba Lethu HIV Clinic, Helen Joseph hospital, Johannesburg, South Africa

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Background: There has been no consensus on the ideal way to measure adherence in resource limited settings (RLS). Viral load is perhaps the most reliable indicator of poor adherence but is not easily accessible in RLS. We aimed to identify routinely collected markers that could be used to assess adherence to ART.

Methods & Materials: Retrospective analysis of HIV-positive ART-naïve adults ($\geq$18 years) initiating standard first-line ART at the Themba Lethu Clinic in Johannesburg, South Africa between April 2004 and January 2012. We assessed the association between the last self-reported adherences, change in mean cell volume (MCV) calculated from baseline to 6 months, change in CD4 count calculated from baseline to 6 months and missed visits and poor adherence (defined as a viral load $\geq$400 copies/ml after 6 months on ART). Poisson regression models with robust error variance were constructed to estimate incidence rate ratio (IRR) and 95% confidence interval (CI). The IRR was used to approximate the relative risk (RR) of poor adherence.

Results: A total of 7160 patients were eligible for the study. Of these, 18.9% had poor adherence at 6 months. The marker of poor adherence was change in CD4 count stratified by change in MCV at 6 months (change in CD4 $\geq$expected and change in MCV <14.5fL; Attributable risk ratio (aRR) 3.11, 95% CI 2.41-4.02, change in CD4 <expected and change in MCV $\geq$14.5fL; aRR 1.23 95% CI 0.76-2.00 and change in CD4 <expected and change in MCV <14.5fL; aRR 6.98 95% CI 5.35-9.09).

Conclusion: The CD4 cell count stratified by change in MCV at 6 months was identified as a predictor of poor adherence to ART. This finding could help health workers identify and manage poor adherence to ART in the absence of viral load testing. Further stud-

ies are needed to determine whether this predictor remains useful beyond 6 months of ART medication as the number of patients on tenofovir (TDF)-based regimens increases.

Type: Poster Presentation

Enteric fever surveillance in selected rural and urban health facilities of Bangladesh

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Background: Incidence of Enteric fever in Dhaka (2005) was 3.9/ 1,000 population/ year. It decreased in 2010, still it is high. Now no surveillance at national level. Hospital based surveillance undertaken to determine: number of febrile cases positive for enteric fever; antibody against salmonella, i.e., *S. typhi* & *S. paratyphi A, B*; antimicrobial sensitivity pattern of the isolated organism; estimate the age specific occurrence of enteric fever and high risk groups identification; assess socio demographical characteristics.

Methods & Materials: Surveillance covered two rural and three urban hospitals. Case-patients had axillary temperature >38° C/100°F for >3 consecutive days, taken no antibiotic, enrolled every 2 days/ week. Socio-demographical, epidemiological data and 7 ml (5 ml from $\leq$ 12 years) of venous blood was collected Oct 2009 - May 2011. Widal tube agglutination test was performed, using plasmatic reagents (Plasmatec Laboratory Products), containing O and H antigens of *S. Typhi, S. Paratyphi A* & *B*. Positive and negative serum controls were included, a titre of >1:80 and >1:160 to either antigen in a single serum specimen was taken as indicative of enteric fever. Salmonella typhi O and H. agglutinin titres >1:80 and >1:160 were taken as significant (88% sensitivity and 98% specificity). Lyzed blood from AISBACT inoculated into solid media, McConkey agar and selective media, Salmonella and Shigellae agar and incubated aerobically 37°C for 18 hours.

Results: In 2015 patients, male 55.2%, 49.4% (n=996) detected as enteric fever by Widal test and/or blood culture, typhoid 76.3% (n=103) by blood culture, while 92.7% (n=874) by Widal test. Paratyphoid a 5.6% (n=53), Paratyphoid b 1.7% (n=16) by Widal test; Paratyphoid a 23.7% (n=32) by culture.

Blood culture showed Ceftriaxone (90.4%), Ciprofloxacin (88.9%), and Ceftazidime (86.7%) sensitivity; 95.3% resistant to Cotrimoxazole; Among patients 39.8% typhoid and 28.1% paratyphoid A were multidrug resistant (MDR). More (10-55 cases/ week) cases in early summer (2nd week of March to 1st week of July 2010); 84.5% (n=114) patients were 13-59 years. No significant difference between drinking water from different sources for having enteric fever.

Conclusion: Antimicrobiogram reveals MDR was high.

Type: Poster Presentation

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Session: Epidemiology and Public Health II
Date: Friday, April 4, 2014
Time: 12:45-14:15
Room: Ballroom

Bibliometric analysis of publications in infectious diseases and clinical microbiology areas: Which coutries led in 1996-2011 and 2011 periods?

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Background: In this study it was aimed to make the bibliometric analysis of 1996-2011 and 2011 publications related to infectious diseases and clinical microbiology areas.

Methods & Materials: Bibliomeric data related to 1996-2011 and 2011 were retrieved from SCImago journal and country rank web site (www.scimagojr.org) which analysed the citation data in Scopus (www.scopus.com). Data related to infectious diseases and clinical microbiology were accessed by using the infectious diseases subcategory and clinical microbiology subcategory of the database.

Results: When evaluated according to total number of publications, United States, United Kingdom, France, Brazil and Germany were the top five countries in the infectious diseases area in 1996-2011 period. In 2011 top two did not change but the rest was as China, Brazil and France. In the medical microbiology area in 1996-2011 period top five countries were United States, Japan, China, Spain, and Brazil whereas in 2011 top five countries were United States, China, Japan, India and Spain.

Conclusion: US is the leading country in both medical microbiology and infectious diseases areas. China is increasing its place among the top five countries.

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Investigation of bordetella pertusis among patients aged 10-39 years with the complaint of cough persisting for two weeks or longer by culture and PCR

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Background: The purpose of this study is to determine the frequency of the presence of *B. pertussis* among adolescent/adults who have prolonged cough for 2 weeks or longer.

Methods & Materials: Two hundred and fourteen patients aged 10-39 years with the complaint of cough persisting for 2 weeks or longer were enrolled in the study.

Nasofarengeal swab specimens were obtained from patients in the Departments of Pediatrics and Pulmonary Medicine at the Akdeniz University Hospital and in the Department of Pulmonary Medicine at the Antalya Education and Research Hospital between October 2010 and May 2011.

Culture and PCR methods were performed to detect *B. pertussis*. IS481 real time PCR, and ptxA-Pr gene PCR were used for PCR analysis of *B. pertussis*.

For the diagnosis of pertussis, IS481 real-time PCR and ptxA-Pr PCR were used in combination and the interpretation criteria of PCR results were as follows: if a specimen was positive for IS481 and ptxA-Pr it was considered to contain *B. pertussis*, if a specimen was positive for IS481 with a CT below 35 and negative for ptxA-Pr it was considered to contain *Bordetella spp*, if a specimen was positive for IS481 with a CT between 35 and 40 and negative for ptxA-Pr, it was considered *indeterminate*.

Results: Three patients were *B. pertussis* culture-positive. A total of 51 samples (23%) were positive *B. pertussis* PCR-positive by IS481 real-time PCR. Fifteen samples were positive for *B. pertussis* by PCR method targeting ptxA-Pr gene. Using the interpretation criteria of PCR results; 15 specimens were interpreted as positive for *B. pertussis*, 11 specimens were interpreted as positive for *Bordetella spp*., 25 specimens were interpreted as *indeterminate* and 163 specimens were considered as *negative*.

Conclusion: We conclude that *B. pertussis* infection is a common cause of persistant cough in adolescents and adults. PCR has several advantages over culture such as increased sensitivity and decreased time of the results. However, there are potential problems related to specificity and cross reactions that can complicate the interpretation of test results for pertussis diagnosis. Culture and PCR continue to have prominent places in the diagnostic process, but both have limitations.