Spatial and temporal dynamics of the cases of tuberculosis in the zone of farming health of Pendjwa, Province of Bandundu/RDC, 2009-2013

J. Wangi Bosila
Univrsité de Franche-comté et Université de Kinshasa, Besancon, FRANCE METROPOLEITAN, France

Background: Enclosed to the north extreme of the Province of Bandundu, the zone of farming health of Pendjwa (ZSR) is one most affected by the Tuberculosis (TBC) mainly at the Pygmy populations. This survey aims This survey aims to identify the areas of health (AH) of persistence of the vestigial cases of TBC in order to propose adjustments adapted to struggle against the tuberculosis in this ZSR.

Methods & Materials: The cases of TBC returned between 2009 and 2013 to the scale of the AH as well as the individual cases returned in the structures of hold in charge have been analyzed.

Results: Three AH out of sixteen (Pendjwa, Nzale, Monio) have been identified like hot spotlight of the persistence of the cases of TBC. These three AH are populated from 55 to 60% of Pygmies. A total of 470 cases out of 535 had a notion of tubercular numbering in a brought closer environment.

Conclusion: The fine analysis of the persistence factors in these three AH would permit to bring the ZSR of Pendjwa to reduce the impact of the TBC to 83 for 100 000 habitants (half of the national yearly impact in 1990).

Epidemiology of needle stick-sharp injuries (NSSIs) and potential high risk exposures among health professionals in Ethiopia: Neglected public health concern

Z.D. Woldesonbet
Addis Ababa University, Addis Ababa, Addis Ababa, Ethiopia

Background: Health professionals are exposed to a wide range of hazards in the workplace. Needle stick injuries have been recognized as one of the occupational hazards. Healthcare worker handling sharp devices or equipment is at risk of occupational exposure to blood borne pathogens. Despite the burden of potential exposures, in Ethiopia, there are only few researches that have been conducted; as a result there is clearly paucity of information on this regard. The aim of the research conducted was to determine the epidemiology of needle stick-sharp injuries and high risk exposures among health professionals in public hospitals, Addis Ababa, Ethiopia.

Methods & Materials: Hospital based cross sectional survey conducted among health professionals at public hospitals, Addis Ababa, Ethiopia. A pretested and structured questionnaire was utilized to collect data on socio-demographic, needle stick injury and other high risk exposures. Data was analyzed using SPSS version 16. Statistical significance was declared at P-value <=0.05.

Results: Of the total study participants, prevalence of sustained needle stick injuries (NSIs) and sharp injury was found 155 (61.2%) and 127 (50%), respectively. Majority of the study subjects, which
account 184 (72.4%) and 153 (60.2%) of them were exposed for blood while ungloved and body fluid, respectively. Consistent use of gloves was reported by 52.4% of respondents. Of the total study participants, 9 (3.5%) of respondents were vaccinated against hepatitis B virus infection.

**Conclusion:** The study declared that exposure for potentially infectious body fluids including blood, needle stick injuries, sharp injury and other risk factors was high. But, the study indicated only very small percentages of health professionals were partially vaccinated for HBV. Taking into account the chance of potential exposure, there is a need to focus efforts on mitigating blood borne pathogen transmission through making the work place environment safe and making use of the available vaccine by vaccinating all health care workers at the start of their career.

http://dx.doi.org/10.1016/j.ijid.2016.02.558

**Type:** Poster Presentation

Final Abstract Number: 42.091
Session: Poster Session II
Date: Friday, March 4, 2016
Time: 12:45-14:15
Room: Hall 3 (Posters & Exhibition)

**Social, economic, and immunological impacts of TB treatment in Eastern rural China**

X. Xiao 1, *, L. Yuan 1, L. Qiu 2, W. Lu 3, W. Jiang 1, Q. Zhao 1

1 School of Public Health, Fudan University, Shanghai, China
2 Jiangxi provincial center for disease control and prevention, Jiangxi, China
3 Jiangsu provincial center for disease control and prevention, Jiangsu, China

**Background:** Drug resistant TB in China has been rapidly growing and becoming a cause for critical public health concern. It was reported that the acquired drug-resistant TB mainly results from incompliance to treatment, uncompleted treatment, irregular treatment and unqualified health services.

**Methods & Materials:** Case-cohort was established in four counties in eastern rural China. All registered active TB patients from April 2013 to March 2014 were investigated using structure questionnaire to collect demographic, geographic,socioeconomic information and disease profile. Enzyme-linked immunosorbent assay (ELISA) was used to assess the level of serum cytokines (IFN-γ, IL-4) before anti-TB treatment. All the participants were followed up 6 or 8 months until treatment was completed.

**Results:** In total, 1404 patients were recruited, in which 1270 (94.5%) were newly diagnosed TB patients, 447 (33.8%) were smear-positive (SS+). The average age was 49.5±18.8, and 76.2% was male. The serum IFN-γ and IL-4 before anti-TB treatment was 7.936 and 12.292 pg/ml respectively. 80.9% of newly diagnosed TB patients received standard anti-TB treatment, while 87.7% retreatment TB patients received standard anti-TB treatment. The successfully treated rate was 92.5% and 78.6% of new TB patients and retreatment TB patients respectively. The sputum conversion rate of SS+ TB patients after 2 month anti-TB treatment was 96.5%, while the cure rate and successful rate was 80.5% and 90.0% respectively. 92.6% smear-negative patients completed anti-TB treatment. The successful rate in Jiangsu (97.3%), the more developed area, was higher than in Jiangxi (87.6%) (OR = 6.276, 95% CI: 2.528 15.579).

Patients with BMI<18.5 may be more risk to fail the treatment compared with the health BMI (18.5-23.9) patients (OR = 3.196, 95% CI: 1.592 6.418). There was no relationship between serum cytokines level and treatment outcomes. The cure rate of TB comorbidity with diabetes was same as the one without diabetes.

**Conclusion:** The sputum conversion rate, cure rate and successful rate of TB patients were high in eastern rural China. Improving patients’ nutrition, keeping a healthy BMI could be the key point of increasing successfully treated rate of tuberculosis. More research should be done in future to evaluate the impact of the serum cytokines during anti-TB treatment.

http://dx.doi.org/10.1016/j.ijid.2016.02.559

**Type:** Poster Presentation

Final Abstract Number: 42.092
Session: Poster Session II
Date: Friday, March 4, 2016
Time: 12:45-14:15
Room: Hall 3 (Posters & Exhibition)

**Incidence and risk factors for Tenofovir induced nephrotoxicity among patients with HIV on stable combination antiretroviral therapy(c ART) in South India**

B. Achappa

Kasturba medical college, Mangalore, Manipal University, Mangalore, India

**Background:** Tenofovir disoproxil fumarate (TDF) is bioavailable prodrug of Tenofovir, a potent nucleotide reverse transcriptase inhibitor. TDF causes Proximal tubular dysfunction and Fanconi’s Syndrome. Number of patients on TDF in India is rising due to decrease in cost and availability of TDF in both first and second line antiretroviral therapy (ART) regimen through National ART programme. TDF related renal toxicity in our population has not been studied systematically. Hence this study was undertaken.

**Methods & Materials:** This descriptive study was done on HIV positive patients on stable cART containing TDF with normal Renal function at baseline, attending ART centres under KMC Hospital, Mangalore from September 2012 to Dec 2013. Data was collected by semi structured proforma which included sociodemographic profile, duration of HIV and cART,CD4 count, body weight, BMI, creatinine, GFR using Cockcroft-Gault equation. Using RIFLE Criteria (Risk, Injury, Failure, Loss, End stage) by Acute Dialysis Quality Initiative Group, patients were divided into different stages. Data was analysed using SPSS Version 11.5.

**Results:** 63 patients who met inclusion criteria participated in this study.35 were male and 28 female. Median duration on TDF was 10 months(7-14months). 25(39.4%) developed renal failure according to RIFLE Criteria.21(84%) out of these had Risk, 1 Failure and 1 Loss.22 patients out of 56 (36%) on NNRTI based regimen had Renal Toxicity.15 (60%) of patients with renal injury, 1 Failure and 1 Loss.22 patients out of 56 (36%) on NNRTI based regimen and 3 out of 7(43%) patients on Protease Inhibitor based regimen had Renal Toxicity.16(64%) had CD4 count less than 275 cells/ml(p=0.02).12 out of 28 females (42%) and 13 out of 35 males (37%)had renal toxicity.

**Conclusion:** TDF induced renal toxicity is high, though majority of patients had mild toxicity. Low body weight, female sex, Low CD4 Counts and Protease Inhibitor based cART are risk factors for renal toxicity. Frequent monitoring of renal functions is advocated among patients with these risk factors who are started on TDF.

http://dx.doi.org/10.1016/j.ijid.2016.02.560