

2nd International Conference on

Respiratory and Pulmonary Medicine

October 17-18, 2016 Chicago, USA

Active case findings (ACF) at Tengecha Boys High School, Bureti sub-county, Kericho County

Collins Kirui and Sambu Cheruiyot

Kapkatet Sub-County Referral Hospital, Kericho County

Background: TB still remains a major cause of morbidity and mortality in Kenya. Early and routine screening plus lab work is critical to promptly identify and treat TB. Tuberculosis control depends on successful case finding and treatment of individuals infected with *Mycobacterium tuberculosis*. Passive case finding is widely practiced which barely little results.

Aim: The present study aims to ascertain the consensus and possible improvements in active case finding across the country especially boarding schools.

Objective: To evaluate active TB case finding among students and teachers of Tengecha Boys High School in Bureti sub-county.

Methodology: Prospective study was conducted in Tengecha Boy's High School for active case finding by the hospital team. This was triggered by smear positive students screened and treated for TB in the hospital. The study was conducted in the school from July, 2014 to November 2014. Screening was conducted for all students and teachers, those found with signs and symptoms; sputum smears was done. Those found to be smear positive were initiated on anti-TB drugs and were followed up in the hospital. Health education was conducted weekly by the hospital staff in the school during the study period.

Summary: From the findings, 920 student were screened and 80 teachers, for students 10.8% (n=100) had signs and symptoms, 22% (n=22) were smear positive. For teachers 6.25% (n=5) had signs and symptoms and 20% (n=1) was smear positive. All smear positive were initiated anti-TB medication.

Conclusion: Active contact tracing of SS+ve index cases have high yields in reduction in TB transmission. The intervention has resulted in improved compliance and reduction in complication this has significantly reduced previously high mortality rates. There are still missed opportunities which need to be addressed by ensuring all boarding schools children need to be routinely screened for TB and Health education need to be scheduled in all boarding schools.

collkirui83@gmail.com

The *Mycobacterium tuberculosis* tm-RNA *ssr* is required for intracellular survival and resistance to nitric oxide

Mohammad A Alzohairy¹ and James E Graham²¹Qassim University, Saudi Arabia²University of Louisville, USA

A genome of almost 4,200 predicted genes encoding an abundance of readily recognized transcriptional regulatory factors functions to allow the tubercle bacillus to survive in different environments during infection and survive aerosol transmission to new host. Screening for bacterial RNAs produced in response to host interaction produced candidate lists where we noted *ssr*, annotated as small stable RNA. *M. tuberculosis ssr* encodes small stable tmRNA with both transfer and messenger function that is highly important to keep bacterial cell in fully operational state. We investigated the contribution of *ssr* to *M. tuberculosis* pathogenesis. Genetic DNA manipulations revealed that *ssr-Rv3099c-smpB* genes are indeed not essential for growth. An H37Rv *ssr-Rv3099c-smpB* mutant was greatly impaired intracellular survival and growth relative to H37Rv and Rvs2O strains. In addition, mutant strain was more sensitive to various in vitro stress conditions including heat, SDS treatment, sub-lethal concentration of translation specific antibiotic, and more interestingly to nitric oxide, which is along with reactive nitrogen intermediates represent an important mean through which macrophages partially control *M. tuberculosis* infection. Our findings indicate an important role of *ssr-Rv3099c-smpB* genes in *M. tuberculosis* pathogenesis and tolerance to various stress conditions.

dr.alzohairy@gmail.com