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Prevalence and risk factors of louse-borne relapsing fever in high risk populations in Bahir Dar city Northwest, Ethiopia

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Background: Louse-borne relapsing fever (LBRF) is a vector borne acute febrile illness caused by *Borrelia recurrentis* and the disease is more prevalent in the high risk groups like prisoners, yekoloremaries and street children. However, prevalence and risk factors of LBRF in these populations about the disease are not known. Therefore, the aim of this study was to determine the prevalence and risk factors of LBRF in high risk populations.

Methods: A cross-sectional survey on prevalence and risk factors of LBRF in high risk populations in Bahir Dar city was conducted in December, 2012. For the study, blood was taken from the tip of the left ring finger of the participants by laboratory technicians and thick blood film was prepared from each participant and stained with 3% Giemsa for 30 min. The slides were examined and the result was reported as positive or negative using light microscopy and finally, data was also collected using a pre-tested questionnaire by face to face interviews.

Results: Of the 407 study participants, 383 (94.1%) were males with the mean age of 31 years and 243 (59.7%) had no formal education. The prevalence of LBRF was 2.5% and the positivity rate of LBRF was highest in yekolotemaries (6.1%) followed by street children (4.9%). However, prisoners had nil and statistically significance association was observed between high risk populations and LBRF prevalence (p<0.001). Those study participants who lived in mud houses had the highest positivity rate (2.2%), followed by those in wood houses (0.3%). However, those who lived in brick houses had nil. Study participants who had low levels of knowledge had the highest prevalence rate of LBRF.

Conclusion: The overall prevalence of LBRF was 2.5% and the rate of positivity was highest in yekolotemaries, followed by street children. Therefore, health education should be given for these high risk populations.

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The use of SD BIOLINE TB Ag MPT 64 detection assay for rapid characterization of mycobacteria in Nigeria

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Laboratories performing culture and characterization of Mycobacteria are very few in low resource settings like Nigeria; this is largely due to stringent requirement of biosafety measures, longer turnaround time and laborious nature of tests. Hence, a rapid, simple and accurate test for characterization is needed. The "SD BIOLINE TB Ag MPT 64 RAPID" is a simple and rapid immune chromatographic test used in differentiating *Mycobacteria* into Mycobacteria tuberculosis complex (MTBC) and non-tuberculous *Mycobacteria* (NTM). 100 sputa were obtained from patients suspected to be infected with tuberculosis and presented themselves to the selected the hospitals for check-up and treatment were involved in this study. The samples were cultured in a class III Biosafety cabinet and level III biosafety practices were followed. 40 isolates were obtained from the cultured sputa and they were identified as Acid-fast Bacilli (AFB) using Zeihl-Nelsen acid-fast stain. All the isolates (AFB positive) were then subjected to the SD BIOLINE Analysis. 31 (77.5%) were characterized as MTBC while 9 (22.5%) were NTM. The total turnaround time for the rapid assay was just 30 minutes as compared to few days for phenotypic and genotypic methods. It was concluded that "SD BIOLINE TB Ag MPT 64 Rapid" is simple, rapid and reliable test to differentiate MTBC from NTM.

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