High prevalence of tuberculosis in a military camp in D R Congo: a cross-sectional survey

C. Geleyn1, B. Bisimwa2, O. Rusumba3, J.P. Chirambiza3, D. Kikobya4, E. André5, M. Kashongwe2, S. Callens6

1Ghent University, Ghent, Belgium
2Université Catholique de Bukavu, Bukavu, Democratic Republic of Congo
3TB Reach, Bukavu, Democratic Republic of Congo
4Ministère de la Défense de la RD Congo, Bukavu, Democratic Republic of Congo
5Université Catholique de Louvain, Louvain La Neuve, Belgium
6Ghent University Hospital- Ghent University, Ghent, Belgium

Introduction: Tuberculosis (TB) ranks worldwide as the 4th leading cause of death from an infectious disease. The DRC ranks among high burden countries. Conversely, the knowledge of high-risk groups in the DRC is rather limited. The military population has previously been described as at high risk of TB and MDR-TB, although no prevalence study has been performed in this specific population to date.

Methods: Between May 7 and May 11, 2014, a cross-sectional, observational survey was done to map prevalence of TB in a military camp in Bukavu, South-Kivu, DRC. Persons were eligible to participate if they were at least 16 years of age and if they provided written informed consent. The survey was performed using a first step verbal screening in order to identify people with TB symptoms. All suspects gave one or two samples, which were processed by smear microscopy and NAAT (GeneXpert®). P-values were calculated through Chi Square. VLIR-UOS and TB REACH supported this study.

Results: 4597 persons were interviewed. 301 cases were excluded due to missing data. Finally, 4296 persons were included from 2672 households. The MF ratio is 1.13 and median age is 30 years. One out of 5 (21.3%) never attended school and 31.4% only attended primary school. Households consist of a median of 4 (IQR: 3-6) persons of which 3 (IQR: 2-4) children living in a house or tent with 2 (IQR: 1-2) rooms. Occupants reported indoor smoking in 45.7%. Only 7.9% of households had running water indoors, while the majority (67.8%) did not purify water. Almost all households had access to electricity (93.4%) and mobile phones (80.9%), but only 4.6% reported to have a refrigerator.

Among all participants, 6 bacteriologically confirmed incident pulmonary TB cases were detected, 3.9% (95% CI: 3.4-4.5) was found to be on treatment and 20.6% showed TB symptoms. Therefore, prevalence of TB is estimated at 4090 (95% CI: 3488-4692), compared to 549 per 100,000 population nation-wide.

TB cases were less likely to have had education (75.8% vs. 81.4%, P<0.001), access to electricity (90.5% vs. 95.5%, P<0.001) and mobile phones (78.9% vs. 84.8%, P<0.001). On the other hand, a larger proportion was exposed to indoor smoking (62.4% vs. 42.5%, P<0.001), active in the army (47.1% vs. 42.2%, P=0.015) and away from the camp for long periods (32.3% vs. 23.1%, P<0.001).

Conclusion: A high burden of disease within Congolese military has been confirmed. Better access to health care and active case finding should be intensified to detect TB early in this high risk population. Similar surveys could assist in developing specific policies in other high-risk populations.