

TITLE: XPERT MTB/RIF ASSAY FOR PULMONARY TUBERCULOSIS IN PRISONS OF THE WESTERN SÃO PAULO STATE BETWEEN 2015 AND 2017

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ABSTRACT:

Tuberculosis (TB) is an infectious disease caused by the *Mycobacterium* bacteria which belongs to the *M. tuberculosis* complex. It is a major public health problem worldwide, especially in prisons where conditions lead to the occurrence of this disease by about 27 times more than in the free population. The aim the study was to report the detection of TB in prison units of five municipalities (A, B, C, D and E) located in the western São Paulo State by the GeneXpert® MTB / RIF System, between October 2015 and June 2017. A statistical survey and analysis of the results were performed through the Laboratory Manager System and organized in the Excel software. A total of 6,546 sputum samples were analyzed, of which 552 (8.43%) of the municipality A; 2,166 (33.09%) at B; 746 (11.40%) at C; 1,796 (27.43%) at D; and 1,286 (19.65%) to E. TB was detected in 258 (3.94%) samples. The highest positivity for the *M. tuberculosis* complex was found in the prisons municipalities D and B, with detection of 84 (1.28%) and 82 (1.25%) samples, respectively. Unit E presented 47 (0.72%) detections, unit C 36 (0.55%) and unit A 9 positive samples (0.14%). All prisons had a population greater than their capacity, but the municipality D's unit had a population 58.44% higher than its capacity. The agglomeration conditions in the prison units contribute the dissipation of TB. However, unit C, 133% greater than its capacity, did not have a higher number of positive samples, which may suggest that the health team had the best surveillance conditions when compared to others. The results allowed to know about the occurrence of TB in prison units of western São Paulo State, contributing to the guidelines of the National TB Program Control, providing rapid diagnosis, isolation and adequate treatment. The prisons units that sent the highest number of samples were the ones that had the most positive cases, highlighting the importance of the active search of the suspected cases. CAAE protocol No. 50577015.6.0000.0059 and CEPIAL No. 1,387,145.

Keywords: contagious disease, GeneXpert System, *Mycobacterium tuberculosis*, penitentiary services, TB control

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