

COMPARATIVE EVALUATION OF TWO COLD STAINING METHODS WITH THE ZIEHL-NEELSEN METHOD FOR THE DIAGNOSIS OF TUBERCULOSIS

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Abstract. In developing countries pulmonary tuberculosis is usually diagnosed by detecting acid-fast bacilli (AFB) in sputum using a Ziehl-Neelsen (Z-N) staining method. However, in the field the traditional method of staining is difficult to carry out. This study evaluates the efficiency of two cold staining methods, namely Gabbet's and a modified two reagent cold staining method compared with the Z-N taken as the gold standard. Triplicate smears were prepared from 267 sputum samples and stained by the Z-N, Gabbet's, and a modified cold staining method, the smears were positive for AFB in 21 (7.87%), 18 (6.74%) and 19 (7.12%), respectively. The sensitivities for the Gabbet's and modified cold stain were 85.7% and 90.5%, respectively. The positive agreement between the Z-N and Gabbet's (92.3%) and Z-N and modified cold stain (95%) were good. The modified cold staining method was less time consuming and easier to perform in the field.

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