

Under-diagnosis of smear-positive pulmonary tuberculosis in Nairobi, Kenya

Abstract:

To determine if under-reading of sputum smears is a contributing factor in the disproportionate increase in smear-negative tuberculosis in Nairobi, Kenya. **METHODOLOGY:** Between October 1997 and November 1998, patients fulfilling the local programme definition of smear-negative presumed pulmonary tuberculosis were enrolled in the study. Two further sputum specimens were collected for examination in a research laboratory by fluorescence microscopy. **RESULTS:** Of 163 adult subjects enrolled, 55% were seropositive for the human immunodeficiency virus type 1 (HIV-1). One hundred subjects had had two pre-study sputum smears assessed before recruitment and produced two further sputum specimens for re-examination in the research laboratory; of these 19 (19%) were sputum smear-positive on re-examination and a further seven (7%) became smear-positive on second re-examination. **CONCLUSIONS:** Of those patients with smear-negative presumed pulmonary tuberculosis by the local programme definition, 26% were smear-positive when reexamined carefully with two repeat sputum smears. This suggests that the high rates of smear-negative tuberculosis being seen may in part be due to under-reading. This is probably as a result of the overwhelming burden of tuberculosis leading to over rapid and inaccurate sputum examination. Retraining of existing technicians and training of more technicians is likely to reduce underreading and increase the yield of smear-positive tuberculosis. This finding also stresses the need for regular quality assurance.