

In developing countries, which their facilities and equipment's seldom satisfy the needs for suitable culturing, obtaining smears and microscopic observation is their primary laboratory procedure for the diagnosis of TB. Although the sensitivity of acid-fast staining is less than culturing procedures and its sensitivity is also dependent on the technician skill and the use of appropriate approaches, but it is the fastest and the most essential TB diagnosis tool especially for patients whom microbial burden and the risk of transmission are very high or the patients who need rapid onset of therapy [21, 22]. Systematic evaluation of control programs and result interpretation by a laboratory specialist is the most important component for enhancing the management of TB laboratory networks. The simultaneous epidemics of HIV and TB, especially in developing countries and the fact that Ziehl-Neelsen stain is less sensitive in people with HIV infection, caused many studies to be concentrated on enhancing microscopic identification approaches. Implementing EQA for microscopic examinations not only reinforce laboratory networks, but it improves the quality of diagnostic procedures for TB in the underlying region. The sensitivity of phlegm smear test with Ziehl-Neelsen stain in different studies has been estimated between 20% and 70% requiring at least 105 bacilli in each ml of phlegm for test to become positive [23]. EQA (External quality assessment) programs are also needed in order to make sure the sample preparation and result interpretation procedures are well implemented in all laboratory units.