# Abstract

**Purpose**

**In order to ensure the quality of sputum smear microscopy of 9 contract Mycobacterium laboratory of Taiwan Center for Disease Control. A smear external quality assurance (EQA) program was implemented in Taiwan.**

**Materials and Methods**

**A questionnaire was used to conduct the survey of the current status of clinical examination of mycobacterium. A sampling strategy using lot quality assurance system was used for smear rechecking and quality evaluation. First controllers were blinded to the results reported by the clinical laboratories. A second controller rechecked the discordant slides for final decisions. Training and on-site visit were included in the EQA program.**

**Results and Discussion**

**Of 749 clinical laboratories, 175 carried out sputum smear microscopy. A total of 864 slides were evaluated for smear quality. Of these 981 slides, 637 (64.9%) had proper smear size, 492 (50.2%) had proper thickness and 884 (90.1%) proper staining. Rechecking of the slides revealed that 1 out of 9 laboratories had one high false positive and 8 out of 9 laboratories had at least one high false negative result.**

**Conclusion and Suggestions**

**Supervision visits were required to find out the causes of the errors and to take corrective actions. A smear EQA program has to be included in the national tuberculosis program to assure the quality of the sputum smear microscopy and thus the efficiency of tuberculosis case finding will be improved.**

**Key Words: Mycobacterium tuberculosis, Quality control, External quality assurance (EQA) system**