

PC-71552-12 Performance of different culture methods: implications for TB control in TB-HIV endemic areas

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Introduction: There is increasing pressure for poorly resourced countries to extend the use of culture to diagnose TB. The MGIT system is known to have a higher yield and quicker time to recovery of TB but is largely not available in resource limited countries. The ZAMSTAR study is evaluating the routine use of MGIT culture on prevalence survey samples from Zambia and South Africa.

Methods:

- Samples digested and decontaminated using NaOH and NALC system
- Inoculated on solid media and liquid media
- ZN stain positive isolates subjected to identification tests to confirm presence of *Mycobacterium tuberculosis* complex

Results: 385 *Mycobacterium tuberculosis* complex (MTB) were isolated in total. MGIT isolated 322 (81%) and LJ 172 (45%). 373 non-tuberculous mycobacteria (NTM) were isolated, MGIT isolated 316 (85%) and LJ isolated 123 (33%). Of 310 smear negative samples, MGIT recovered 252 (81%) and 117 (38%) were recovered on LJ. The median time of positivity for smear negative samples was 17 days on MGIT and 34 days on LJ. Contamination rates were high on MGIT ranging between 23% and 9.8%.

Discussion: MGIT system recovered double the number of smear negative isolates of *M. tuberculosis* compared to LJ. The MGIT system was also quicker to give results. Using MGIT system may improve the diagnosis of TB in high HIV endemic areas that have seen an increase in smear negative TB.