

# Xpert MTB / RIF vs. sputum smear for TB screening in an area of high prevalence of pulmonary TB/MDR-TB in Colombia

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## Background

WHO's current policies and guidelines recommend Xpert MTB/RIF can be used as an initial diagnostic test in individuals suspected of having MDR-TB or HIV-associated TB. Recently it has been suggested for TB screening in general population.

## Methods

We conducted a Cross-sectional study in adults with respiratory symptoms (for more than 2 weeks) in the community of Buenaventura.( area with one of the highest prevalence in Colombia). The aim of this study was to compare screening with Xpert MTB / RIF vs. sputum smear microscopy. Xpert MTB/RIF was used in 2 strategies: screening symptomatic patients, and to confirm positive smears

## Results

298 patients were included. The sputum smear was positive in 5.3 % vs. 7.4% with Xpert. The sensitivity of Xpert vs. smear was 75% vs 53%, specificity 93% vs 95%, positive predictive value 37.5% vs 36.4 % and negative predictive value 98.5% vs 97.5%, respectively.

### Strategy 1: Use of Xpert MTB / RIF as screening in patients with respiratory symptoms

Test	n	Prevalence	Sensitivity	Specificity	PPV	NPV
BK	298	5.3	53.3%	95%	36.4%	97.5%
Xpert MTB/RIF			75%	93%	37.5%	98.5%

### Strategy 2: Use of Xpert MTB / RIF to confirm positive BK and evaluate rifampicin resistance

Test	n	Prevalence	Sensitivity	Specificity	PPV	NPV
BK	821	18.8	93.5%	93.4%	81%	98.1%
Xpert MTB/RIF			96%	93%	84.4%	98.8%

## Conclusion

In our study, XpertMTB / RIF showed a higher sensitivity than sputum smear in suspected TB cases in the community. Replacing smear microscopy with Xpert MTB/RIF could increase confirmation of pulmonary TB with an additional benefit of TB confirmation and rifampicin resistance detection.

## References

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