

**Online Supplementary Table S4: Diagnostic accuracy of smear with culture as reference during the course of multidrug-resistant tuberculosis treatment**

Duration of treatment (months)	Smear + Culture +	Smear + Culture -	Smear - Culture +	Smear - Culture -	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)
0	98	0	0	0	98	0	98	0
4	15	13	15	48	50.0	78.7	53.6	76.2
6	10	0	5	75	66.7	100	100	93.8
12	6	0	4	77	60	100	100	95.1
18	7	0	2	75	77.8	100	100	97.4
24	7	0	0	75	100	100	100	100

Six patients were smear +/culture+ at 12 months of treatment. The PPV of smear was high at start as most smear+ are culture +, but with treatment, it decreased as chance of dead bacilli increased and smear+ could be culture -. However, at 6 months, PPV again approached 100%, leading to satisfactory corroboration between sputum and culture positivity as majority of the dead bacilli were excreted. The NPV of smear was high after 4 months of treatment as smear- reflects culture in most situations. The NPV approached to 93% or more from 6 months onwards. The specificity of smear test gradually increased during treatment and from 6 months onward the specificity was 100%, indicating that after the 6<sup>th</sup> month, the probability of false positivity with smear would be less. The sensitivity of smear was variable with higher values at the beginning and near the end of treatment with variability in between, indicating that the false negatives were low during this period. PPV: Positive predictive value, NPV: Negative predictive value