

Diagnostic accuracy of a point of care Syphilis test used among pregnant women in Bolivia

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OBJECTIVE:

To evaluate the performance of a point-of-care (POC) syphilis test when used in urban Bolivian maternity hospitals. **METHODS:** We tested 8892 pregnant women for syphilis using the Abbott Determine Syphilis TP rapid POC test and rapid plasma reagin (RPR) in the laboratory of four large urban maternity hospitals where national statistics reported a syphilis prevalence of at least 3%. Sera were stored and transferred to the national reference laboratory (INLASA) where RPR testing was repeated. When the reference laboratory staff observed a positive RPR result, a *Treponema pallidum* particle agglutination assay (TPPA) was performed to confirm these findings. We calculated test performance characteristics for the POC test and hospital RPR using RPR performed at the reference laboratory confirmed by TPPA as the reference standard. Participants received treatment during their initial visit based on the POC test results.

RESULTS:

The sensitivity, specificity, negative predictive value and positive predictive values of the POC syphilis test were: 91.8% (95% confidence intervals 88.4% to 94.5%), 98.5% (98.2% to 98.8%), 71.0% (66.6% to 75.2%), and 99.7% (99.5% to 99.8%), respectively. The RPR values were 75.7% (70.8% to 80.2%), 99.0% (98.9% to 99.3%), 76.9% (72.0% to 81.3%), and 99.0% (98.8% to 99.2%), respectively.

CONCLUSION:

The Abbott Determine Syphilis TP test proved to be more sensitive than routine RPR and had comparable specificity. POC testing may be a simple way to expand syphilis screening to clinics with no laboratory facilities, improve case detection, and facilitate treatment delivery.