

## Prevalence of Syphilis in Pregnant Women Living with Human Immunodeficiency Virus (HIV) from South Africa using a Molecular-Based Assay

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### ABSTRACT

**Background:** Syphilis is one of the most common sexually transmitted infections (STIs), and it remains a significant public health concern, particularly in low-resource settings including sub-Saharan Africa. There are limited data on the prevalence of syphilis among pregnant women living with HIV in South Africa. This study determined the prevalence of syphilis infection in pregnant women living with HIV by the polymerase chain reaction (PCR).

**Methods:** This was a cross-sectional study that included 385 pregnant women living with HIV recruited from the antenatal clinic at the King Edward VIII Hospital in Durban, South Africa between October 2020 and April 2021. *Treponema pallidum* was detected using the Applied Biosystems™ TaqMan® Assays from stored DNA samples extracted from vaginal swabs.

**Results:** The prevalence of syphilis was 5.2% (20/385). The overall median (Q1 - Q3) age of the women was 30.0 years (25.0 - 36.0). Of the women who tested positive for syphilis, 60.0% had reported STI symptoms ( $p = 0.030$ ) and of those, 65.0% did not perceive themselves at risk of contracting STIs ( $p = 0.019$ ). Women who reported having STI symptoms were more likely to test positive for syphilis when compared to women who reported not having any STI symptoms (OR: 2.810; 95% CI 1.119 - 7.052;  $p = 0.028$ ). Women who perceived themselves as being at risk of contracting STIs were less likely to test positive for syphilis when compared to women who did not perceive themselves at risk of contracting STIs (OR: 0.328; 95% CI 0.128 - 0.842;  $p = 0.020$ ).

**Conclusion:** The study has indicated syphilis is prevalent among pregnant women living with HIV in Durban, South Africa however STI risk perception is low. Educational programs on STIs are essential among pregnant women attending antenatal care clinics in Durban.

**Keywords:** Syphilis, Pregnant women, Prevalence, HIV

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