



Screening and Prevalence of Maternal Syphilis in a Rural and Urban Community in the Western Cape, South Africa



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1. Introduction

- Syphilis affects 2 million pregnant women annually with vertical transmission in 50-90% of cases.¹⁻²
- In South Africa, maternal syphilis has increased from 2.6% in 2019 to 3.1% in 2022.³
- Study aim: To describe maternal syphilis screening and prevalence in one urban (Gugulethu) and one rural (Breede Valley) community, in the Western Cape, SA.

2. Methodology

- Cross-sectional study.
- January 2022 to June 2024.
- Participants: Pregnant women (24-36 weeks gestation) attending routine antenatal care (ANC).
- Data on syphilis screening, demographic and clinical variables were collected via record review, standardised interviews, and from the National Health Laboratory Services.⁴
- Maternal syphilis screening was compared to the 2019 Guidelines for the Prevention of Mother-to-Child Transmission (PMTCT) of Communicable Infections.⁵

3. Results

- 941 women (600 at the urban and 341 at the rural site).
- HIV prevalence of 58%, by study design.
- Maternal syphilis screening:
 - Point-of-care testing (POCT) results were recorded for 88%, with higher rates at the rural site (Table 1).
 - Of the screened women, only 74% were screened at the first ANC visit with no difference between sites.
 - Of those with reactive POCT results, 19% did not undergo confirmatory laboratory testing as required by guidelines.⁵

Table 1: Maternal syphilis POCT and laboratory testing by site				
n (%)	Total (n = 941)	Urban (n = 600)	Rural (n = 341)	p-value (<0.05)
POCT results				
Available	826 (87.8%)	492 (82.0%)	334 (97.9%)	0.00
Unavailable	115 (12.2%)	108 (18.0%)	7 (2.1%)	-
TPAb lab results				
Available	693 (73.6%)	530 (88.3%)	163 (47.8%)	0.00
Unavailable	248 (26.4%)	70 (11.7%)	178 (52.2%)	-
RPR lab results				
Available	146 (15.5%)	92 (15.3%)	54 (15.8%)	0.84
Unavailable	795 (84.5%)	508 (84.7%)	287 (84.2%)	-

POCT = Point-of-Care Test; TPAb = Treponema Pallidum Antibody; RPR = Rapid Plasma Reagin.

3. Results cont.

- Maternal syphilis prevalence:
 - Active infection: 5.0% (95% CI 3.5%-6.4%).
 - Past infection: 5.8% (95% CI 4.3%-7.3%).
 - Active and past infection rates were higher at the rural site and in women living with HIV (WLHIV) (Table 2).
 - Active syphilis was significantly associated with socioeconomic status, relationship with the father of the pregnancy, and parity.

Table 2: Maternal syphilis prevalence by site				
n (%; 95% CI)	Total (n = 941)	Urban (n = 600)	Rural (n = 341)	p-value (<0.05)
Active infection	47 (5.0%; 3.5-6.4)	25 (4.2%; 2.6-5.8)	22 (6.4%; 3.8-9.1)	0.00
Past infection	55 (5.8%; 4.3-7.3)	29 (4.8%; 3.1-6.6)	26 (7.6%; 4.8-10.5)	0.00
No infection	575 (61.1%; 57.9-64.2)	464 (77.3%; 74.0-80.7)	111 (32.6%; 27.6-37.5)	0.00
No/equivocal laboratory test	264 (28.1%; 25.2-30.9)	82 (13.7%; 10.9-16.4)	182 (53.4%; 48.1-58.7)	-
Reactive POCT	29 (11.0%)	13 (15.8%)	16 (8.8%)	0.09
Non-reactive POCT	219 (83.0%)	54 (65.9%)	165 (90.7%)	0.00
Unknown/no POCT	16 (6.0%)	15 (18.3%)	1 (0.5%)	0.00

POCT = Point-of-Care Test; CI = Confidence Interval.

4. Conclusion

- Maternal syphilis screening guidelines were sub-optimally implemented at both sites.
- The active maternal syphilis prevalence observed exceeded reported rates.³
- The rural community and WLHIV were more affected by active infection.

5. References

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