Abstract

Background: Based on 2016 global estimates reported by the World Health Organization (WHO), syphilis is thought to infect 2 million pregnant women annually, with 1.2 million of those infections leading to transmission from mother to child. The WHO estimates that syphilis infections in pregnant women who were not screened for syphilis and were not treated during their pregnancy are thought to be responsible for over 0.5 million occurrences of negative pregnancy outcomes globally in 2016. In many developing countries with limited resources and funding, routine syphilis screening continues to be difficult. Literature suggests that factors associated with poor screening for syphilis during pregnancy are, among others, not testing for HIV, attending an antenatal clinic in a private facility, and poor public health infrastructure. The aim of this study was to investigate the coverage of maternal syphilis screening and factors associated with not screening for syphilis among pregnant women included in the 2017 antenatal HIV sentinel survey during their antenatal care visits in South Africa.

Methods: This study was a secondary analysis of data collected in the 2017 South African antenatal HIV sentinel survey involving pregnant women who attended antenatal care in 1,595 South African public health facilities. The primary study was a survey involving data collection of HIV and syphilis screening of 32,716 pregnant women between the ages of 15 – 49 years who attended South African public health facilities for any antenatal care service during their pregnancy. The secondary analysis was survey-weighted using proportional sample weights; a geospatial analysis of the district and province where participants were located; and a survey-weighted correlates of maternal syphilis screening in pregnant women was done. For this secondary analysis, maternal syphilis screening was categorized as "screened" or "not screened". Factors that contributed to pregnant women not screening for syphilis during antenatal care were analysed using a logistic regression model.

Results: The overall maternal syphilis screening rate for pregnant women in 2017 was 96.7% (95% CI 96.12 – 97.20). From 32,716 participants enrolled in the 2017 HIV antenatal survey, only 25,188 were screened for maternal syphilis. In a multivariable model, factors that were significantly associated with women not screening for syphilis during pregnancy were attending only the first antenatal visit at enrolment into the survey

and residing in the provinces of the Eastern Cape [adjusted OR 2.40 CI (1.36 – 4.24)], Gauteng [adjusted OR 2.49 CI (1.28 – 4.84)], Limpopo [adjusted OR 2.62 CI (1.47 – 4.68)], Mpumalanga [adjusted OR 2.34 CI (1.20 – 4.51)], North West [adjusted OR 5.56 CI (1.65 – 18.69)], Northern Cape [adjusted OR 2.33 CI (1.04 – 5.26)], or Western Cape [adjusted OR 3.51 CI (1.88 – 6.55)] when compared to KwaZulu-Natal province. Those who only had their first antenatal visit had increased odds of not being screened for syphilis [adjusted OR 1.82 CI (1.38 – 2.39)] compared to those who had follow-up visits. No other explanatory variables were considered in this research study.

Conclusion: This study found an association between the type of antenatal visit and not being screened for syphilis, which was the main association in this study. The poor maternal syphilis screening coverage for pregnant women in their first antenatal visit in this study demonstrates how important it is to have pregnant women report for their first antenatal visit before 20 weeks and develop strategies that will inform community awareness and the quality of health services rendered to pregnant women. This study supports further studies on factors associated with not screening for syphilis in pregnancy and maternal syphilis screening coverage, which will make use of reliable and authentic diagnostic measures and provide details on the factors associated with poor maternal syphilis screening. We recommend qualitative studies on both pregnant women and healthcare providers to understand barriers to syphilis screening from the patient and health care provider's perspective.

Keywords: Maternal syphilis screening, pregnant women, syphilis, adverse birth outcomes.