A comparison of polymerase chain reaction (PCR) with culture for the detection of *Streptococcus agalactiae* in vaginal swabs from women with a history of preterm delivery

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Introduction: Streptococcus *agalactiae* (group B streptococci (GBS), emerged in the 1960s as a significant human pathogen that causes neonatal sepsis and meningitis. The presence of GBS in pregnant women is regarded to be the leading cause of neonatal mortality and morbidity in South Africa and the world. GBS is a bacterial pathogen frequently isolated from the genitourinary tracts of about 35% of healthy adult women. Women who are colonized with GBS might also develop pregnancy-associated infections including urinary tract infection, bacteremia, and postpartum endometritis.Early detection is imperative in order to avoid adverse pregnancy outcomes.

Objective: This paper compares the PCR technique with standard culture methods for the early detection of GBS in pregnant women between 35 to 37 weeks of gestation.

Materials and Methods: Ano-vaginal samples were collected from 301 women at 35 to 37 weeks of gestation. Informed consent was obtained from all participants and approval was obtained from the human ethics committee of University of the Western Cape (UWC). Data was collected regarding age, marital status, social demographics, and obstetrical history. Samples were examined for GBS by culture on colistin-nalidixic acid (CNA) agar and PCR using GBS-specific primers.

Results: Only forty-one samples were identified as GBS by culture while PCR detected fifty-five. PCR was more sensitive for detecting GBS in these samples, but culture was more specific in detecting a risk for adverse pregnancy outcomes.

Discussion: Early detection of GBS in pregnant women could prevent neonatal morbidity and mortality.