

6th ASIA Pacific Biotechnology Congress and 40th PSM Convention and Scientific Meeting

May 10-14 2011, Philippine International Convention Centre, Manila, Philippines

The association of bacterial vaginosis and *Gardnerella vaginalis* with a history of adverse pregnancy outcomes

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Introduction: Pre-term delivery (PTD) accounts for approximately 70%-75% of perinatal and childhood morbidity and mortality. Numerous studies have demonstrated the association of Bacterial vaginosis (BV) with adverse pregnancy outcomes. BV has been identified as the most common vaginal condition in women of reproductive age and results from a shift from high concentrations of *Lactobacillus spp.* in the vaginal flora to an overpopulation of Gram-negative and anaerobic bacteria including *Gardnerella vaginalis*.

Objectives: The objectives of this study were to establish the prevalence of BV in pregnant women attending an antenatal clinic in the Western Cape, South Africa and determine whether an association could be made with the presence of BV, *Gardnerella vaginalis* and pregnancy outcomes.

Materials and Methods: A total of 301 pregnant women, 150 with a history of term delivery (FTD) and 151 with a history of PTD, were selected to participate in this study. Women were enrolled in the study on their first prenatal visit. Patients were informed of the nature of the study and participation enlisted by means of a consent form along with a completed questionnaire outlining demography, medical history and social behaviour.

Vaginal samples were collected using sterile cotton swabs, cultured for *G. vaginalis* on supplemented Columbia blood agar and the presence/severity of BV determined from Gram-stained smears by Nugent scoring.

Results: Nugent scores revealed that 96 of the 301 subjects harboured vaginal flora indicative of BV, 47 of which were in the PTD group and 49 in the FTD group. The cultural examination revealed that *G. vaginalis* was most frequently isolated from PTD women (78/151), but no statistically significant difference was observed when compared with FTD women (66/150). The prevalence of *G. vaginalis* was highest in those whose Nugent scores indicated BV.

Conclusion: Although *G. vaginalis* was more prevalent in mothers with a history of PTD, no statistical difference was observed between PTD and FTD with Nugent score interpretation for BV.

This material is based upon work partially supported financially by the National Research Foundation of South Africa. Any opinion, findings and conclusions or recommendations expressed in this material are those of the authors and therefore the NRF does not accept any liability in regards thereto.