

Title: Vaginal carriage of Group B *Streptococcus* (GBS) in pregnant women, antibiotic sensitivity and associated risk factors in Dakar, Senegal.

Abstract

The eradication of neonatal Group B *Streptococcus* (GBS) infections, considered as a major public health priority, necessarily requires a mastery of the data vaginal carriage in pregnant women.

Objectives

The aims of this study were to determine the prevalence of vaginal carriage of GBS in pregnant women, antibiotic susceptibility, and associated risk factors.

Method

This was a cross-sectional, descriptive study conducted over a period of 9 months (July 2020 to March 2021) in pregnant women between 34 and 38 weeks of amenorrhea (WA) followed at the Nabil Choucair health center in Dakar. Identification and antibiotic susceptibility of GBS isolates were performed on the Vitek 2 from vaginal swabs cultured on Granada medium. Demographic and obstetric interview data were collected and analyzed on SPSS (version 25). The level of significance for all statistical tests was set at $p < 0.05$.

Results

The search of GBS carriage had involved 279 women aged 16-46 years, with a median pregnancy age of 34 (34-37) weeks' gestation. SGB was found in 43 women, for a vaginal carriage rate of 15.4%. In 27.9% (12/43) of cases, this carriage was monomicrobial, while in 72.1% (31/43) of cases, GBS was associated with other pathogens such as *Candida* spp. (60.5%), *Trichomonas vaginal* (2.3%), *Mobiluncus* spp. (11.6%) and/or *Gardnerella vaginalis* (34.9%). The level of resistance was 27.9% (12/43) for penicillin G, 53.4% for erythromycin, 25.5% for clindamycin and 100% for tetracycline. However, the strains had retained fully susceptible to vancomycin and teicoplanin. The main risk factor associated with maternal GBS carriage were ectocervical inflammation associated with contact bleeding (OR = 3.55; $p = 0.005$).

Conclusion

In view of these findings and the implications that vaginal carriage of GBS may have on maternal-fetal health, regular screening and adequate management of pregnant women colonized with GBS should be encouraged in resource-limited settings.

Key words: Group B *Streptococcus*, Pregnant women, Epidemiology, Antibiotic resistance, associated risk factors, Senegal.

