

Title: Group B Streptococci carriage rate and serotype distribution among mother newborn dyads attending Tikur Anbesa Specialized Hospital, Ethiopia

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Abstract

Background: Group B streptococcus (GBS) was identified as the leading cause of neonatal disease in developed countries. The surrogate for early onset neonatal disease caused by GBS is rectovaginal colonization of pregnant women before delivery.

Objective: In this study we sought to determine GBS carriage rate among pregnant women and their newborns, vertical transmission rate and serotype distribution at Tikur Anbesa Specialized Hospital (TASH).

Methods: A hospital based cross-sectional study was conducted at TASH from March 2015 to August 2015. 280 pregnant women and their newborns were screened for GBS. Isolated GBS were serotyped by using serotype specific antisera. Structured questionnaire was used to collect socio-demographic and obstetric data. Logistic regression was used to compare GBS colonization rate with different risk factors. P value less than 0.05 was considered statistically significant.

Result: Group B streptococci carriage rate of among mothers, newborns and vertical transmission rate identified in this study were 65(23.2%), 95% CI [18.6-28.9], 32(11.3%), 95% CI [7.8-14.8] and 32/65(49.2%) respectively. Serotype distributions of GBS strains isolated in the present study were: Ia 22(22.7%), Ib 16(16.5%), II 29(29.9%), III 7(7.2%), V 18(18.6%), and non typeable 5 (5.2%).

Conclusion: Group B streptococci carriage rate detected in this study was high. Serotype II was the predominant serotype followed by serotype Ia. In the future concerned bodies should consider implementation of prevention strategy to minimize the burden of disease. Vaccine formulation which include serotype II, Ia, V, Ib, and II may prevent majority of neonatal disease caused by GBS in the study area.

Keywords: Group B streptococcus, Vertical transmission, Colonization rate, Serotype