

OROPHARYNGEAL COLONIZATION OF *NEISSERIA MENINGITIDIS* IN SCHOLARS FROM 11 TO 19 YEARS OF AGE

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Abstract

Neisseria meningitidis are Gram negative bacteria that usually colonize the mucosa of the upper respiratory tract in humans. They can either be non-encapsulated or encapsulated, which contributes to the level of virulence and resistance of the strain to the immune system. The capsulated strains are more prone to cause invasive meningococcal disease, a very serious condition that can cause death in a matter of hours or lead to severe sequelae in survivors. Most cases of *N. meningitidis* carriage are asymptomatic, showing the importance of strain-specific immunity for the control of the disease. The rate of meningococcal carriers in a population varies according to age, with adolescents and young adults having the highest prevalence. Therefore, they are considered to be a primary reservoir for transmission to other groups, including young children and infants, and increasing the risk for these groups to acquire the invasive meningococcal disease. The aim of this study was to evaluate the prevalence of *N. meningitidis* carriage among scholars ranging from 11 to 19 years of age in Salvador, Bahia. Oropharyngeal swabs were obtained from 1,200 students of 138 public schools between September and December, 2014. Samples were plated within 4h and meningococci were identified by conventional microbiology methods. Serogroups were determined by PCR. The overall prevalence of *N. meningitidis* carriage was 5.1% (95% CI 4-6%). Most *N. meningitidis* isolates (57.4%) were not groupable. The following serogroups were identified: B (13.1%), E (9.8%), Y (8.2%), C (3.3%), W (3.3%) and Z (3.3%). Associated factor analyzes and molecular characterization of the isolates by MLST are under development. The evidence gathered during this study provides estimates of carriage prevalence in adolescents in Salvador, Bahia. These results will have important implications in future strategies to optimize the impact of the meningococcal vaccination program in our region.

Keywords: *Neisseria meningitidis*, carriage, meningitis, epidemiology, adolescent, serogroup

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