PREVALENCE OF MENINGOCOCCAL CARRIAGE AMONG ADOLESCENTS IN CAMPINAS, BRAZIL


1Santa Casa Sao Paulo Medicine School, 2Sanofi Pasteur, 3Instituto Adolfo Lutz, Sao Paulo, 4Instituto Adolfo Lutz, 5Secretaria Municipal de Saude Campinas, Campinas, Brazil

Background and aims: Meningococcal disease is a rare consequence of N. meningitidis infection, with the highest incidence rates in young children. In contrast, meningococcal carriage is common, especially in teenagers. Taking into account the very limited published data currently available describing meningococcal carriage in Brazil, we performed a study to evaluate the prevalence of N. meningitidis carriage among adolescent students.

Methods: Cross-sectional study, including a representative sample of 1,208 adolescents attending 73 public and private schools in Campinas city. Oropharyngeal swabs were collected and phenotypic and genotypic characterization of carriage strains isolated among adolescents from 3 defined age subgroups: A(11-13y); B(14-16y) and C(17-19y) was performed. The effect of social behavior and previous vaccination against serogroup C were also analyzed.

Results: The overall carriage prevalence was 120 carriers per 1,208 subjects (9.9%), with the highest prevalence (12%) in older adolescents (17-19 years). The proportion of carriers was also higher among students attending public schools, sharing the dormitory with ≥ 2 people, or reporting passive smoking. Carriage of serogroup C dominated (1.3%), followed by serogroups B (0.99%), Y (0.49%), and W135 (0.16%). The most frequent strain isolated was C:23:P1.14-6. Previous vaccination did not interfere in the carriage rates.

Conclusions: The evidence gathered during this study in a representative Brazilian student cohort showed that the highest rates of carriage were observed in older adolescents, with an unusually high dominance of serogroup C. Social behavior was associated with increased risk of carriage. These results will have important implications in future vaccination strategies in Brazil.