



Applicant Information

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Abstract Details

Title:

Persistent Carriage of Pneumococcal Serotype 1 in the Upper West Region of Ghana: Insights from a Meningitis Outbreak Study

Category:

Communicable diseases (Malaria, TB, HIV, NTD)

Authors:

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Objectives:

Streptococcus pneumoniae Serotype 1 constitutes an important cause of meningitis among all ages in the African Meningitis Belt despite the rollout of Pneumococcal Conjugate Vaccines. This study therefore seeks to investigate the carriage of pneumococcal vaccine serotypes among the population post the occurrence of a meningitis outbreak.

Method:

In 2024, after an outbreak of meningitis, a cross-sectional study was conducted involving 1045 healthy students and staff at various schools in seven districts. Participants were grouped into categories, 5-9 years, 10-14 years, and 15+ years. Nasopharyngeal and oropharyngeal samples were taken and processed following standard laboratory protocols.

Results:

Overall, a prevalent carriage rate of 21.5% (225) was recorded with the highest carriage observed among the 5-9 age group. Out of an observed vaccine-serotype coverage of 44.1%, 12 out of the 13 serotypes targeted by PCV-13 were isolated, with serotype 3 representing the highest frequency. Notable among them is the presence of the serotype 1, which has been implicated in severe pneumococcal disease outbreaks in Ghana.

Conclusion:

The continued circulation of vaccine-serotypes, specifically serotype 1, underscores the need for surveillance systems and further investigation into the dynamics of serotype 1 considering its significant role in disease outbreaks. Insight from this research could inform vaccine reformulations and strategies that could contribute to the reduction of the disease burden.

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