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**Potential risk of *Streptococcus pneumoniae* in nasopharyngeal carriage during Umrah and Hajj seasons in Makkah, Saudi Arabia**

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**Background:** Hajj and Umrah poses many health challenges and lead to a higher risk of acquiring and disseminating infectious diseases, as a result of mass gatherings and shared accommodation and air pollution. Nasal colonization by *Streptococcus pneumoniae* is a major contributing factor for pneumococcal disease that still is one of the major causes of morbidity and mortality worldwide.

**Aim:** The aim of this study was to detect and evaluate *S. pneumoniae* in the nasopharyngeal carriage and the antibiotic susceptibility patterns of *S. pneumoniae* isolates in different ethnic groups, during Umrah and Hajj seasons.

**Methods:** A total of 3184 nasal swab were collected from 979/613 Umrah visitors/pilgrims, swab from each one upon arrival and swab before leaving Saudi Arabia, during the period from March to November 2009. Samples were cultured for the presence of *S. pneumoniae* by standard laboratory procedures in the Microbiology Research Laboratory, Faculty of Medicine, Umm Al-Qura University.

**Results:** The carriage rate of *S. pneumoniae* was 0% before performing Umrah and 6.41% after performing Umrah and 80% from isolates after Umrah were sensitive to Cefotaxime, Ceftriaxone, Rifampicin and Meropenem antibiotics. The carriage rate of *S. pneumoniae* was 0.7% before performing Hajj and 1% after performing Hajj and 75% from isolates before Hajj and 66.7% after Hajj were sensitive to the previous antibiotics.

**Conclusion & Recommendations:** This study revealed that ethnic groups carries *S. pneumoniae* were more after performing Hajj and Umrah than before Hajj and Umrah. Thus, we recommend to repeat this study after few years to evaluate the carriage rate of *S. pneumoniae* in Umrah visitors and pilgrims and adding controls from Saudi nationals to any upcoming study in order to compare the carriage rate of *S. pneumoniae* in Umrah visitors, pilgrims and Saudi nationals for designing control strategies for these infectious diseases during Umrah and Hajj seasons.

**Biography**

Ibrahim Alayed has completed his bachelors of medicine and surgery in 2016 from Umm Al-Qura University, he has participated in research activities under the supervision Dr. Hamdi M. El-Said and the Medical Microbiology department at Umm Al-Qura University. His main interests are Molecular Biology, Research and Statistics. Outside the medical field, Ibrahim is friendly, outgoing and likes to participate in different volunteer work for community services.

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