

4th International Congress on

Infectious Diseases

May 11-12, 2017 Barcelona, Spain

What is the prevalence of upper respiratory tract pneumococcal carriage in chronically malnourished children aged from birth to five years?

Holly Smith^{1,2}¹Liverpool School of Tropical Medicine, UK²University of Liverpool, UK

Background & Objectives: Respiratory-tract infections and invasive disease caused by *Streptococcus pneumoniae* (Spn) are a major cause of childhood deaths worldwide. Colonisation of Spn is a prerequisite to pneumococcal disease and carriage is high in children under five years. Chronic malnutrition impairs immune responses, rendering children more susceptible to infection. This is reflected by higher incidence of disease. As studies have suggested the paradigm of chronic malnutrition leading to increased rates of Spn carriage, the aim of this systematic review is to determine the prevalence rate of pneumococcal carriage in the upper respiratory tract of chronically malnourished children under the age of five years.

Methods: A systematic search of the existing literature reporting upper respiratory tract prevalence rate of Spn colonisation in malnourished children under the age of five, using Medline, PubMed, Web of Science and Scopus, was carried out. An eligibility criteria was used to include relevant papers.

Findings: The prevalence rate of Spn colonisation in malnourished children under the age of five was high. Prevalence at birth ranged from 1.0-2.0% and this greatly increases at two months to 53.9-80.0%. Carriage remains high from three months to 60 months at 64.1-88.0%. Meta-analysis showed a pooled prevalence of 67.2% in 0-3 months infants (95% CI, 55.6-78.7%), 77.9% in 3-6 months infants (95% CI, 68.1-87.7%) and 77.8% in 6-60 months infants (95% CI, 73.9-81.6%).

Conclusion: In chronically malnourished children, pneumococcal carriage is frequent. However, as data is limited, further research is needed to investigate the aetiology and the strength of this association.

Biography

Holly Smith is a 5th year Medical student, intercalating in an MRes in Clinical Sciences at University of Liverpool. She completed systematic review and meta-analysis from September 2016 to January 2017 at Liverpool School of Tropical Medicine, under the supervision of Dr Daniela Ferreira.

h.smith4@liv.ac.uk

Notes: