



Influence of atmospheric conditions in RSV infection in Portugal

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Respiratory Syncytial Virus (RSV) is one of the most common causes of respiratory infection in infants in developed countries and temperate climates, such as Portugal. Understanding the seasonality of these infections, and how meteorological conditions may influence its outbreaks, is critical for effective management and prevention strategies in a paediatric setting. In fact, atmospheric conditions are known to play a key role in triggering these outbreaks. Furthermore, atmospheric conditions can be closely related to different weather types, as they control the main atmospheric parameters at a given location, such as air temperature, wind, precipitation and humidity. The present study thereby aims to establish a relationship between the most relevant weather types in the Portuguese climate and the frequency of RSV infections in infants, admitted to an Inpatient Paediatric Service in northern Portugal (Vila Real). A retrospective analysis of infant clinical files, aged 0-36 months, and admitted to the Inpatient Paediatric Service with diagnosis of acute bronchiolitis, from September 2005 to December 2013, is undertaken. This represents a total of 635 hospital admissions, 305 of these are RSV positive. The RSV detection was made by nasopharyngeal aspirate. In this research, only days with at least two documented children with RSV infection were taken into account. The results reveal strong seasonality, peaking from December to March, when regimes with westerly-southwesterly winds, associated with moist weather are prevalent. Moreover, lagged correlations between infections and weather types are also isolated and discussed. Acknowledgements: This study was partially supported by FEDER/COMPETE - Operational Competitiveness Programme [FCOMP-01-0124-FEDER-022692].