

Hospital admissions associated to respiratory viruses. 2014-2015 season. Valencia Hospital Network for the Study of influenza and other Respiratory Viruses (VAHNSI), Spain.

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Background

Burden of disease associated with respiratory viruses (RV) is poorly defined. The aim of this study was to describe the population incidence of admissions with RV by age and virus.

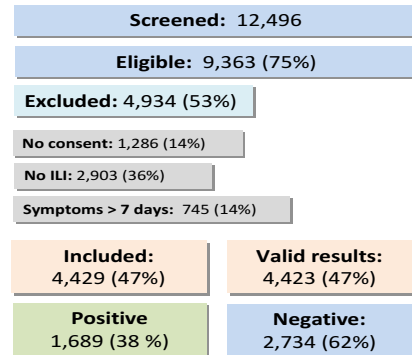
Methods

Prospective active surveillance study of consecutive admissions with RV confirmed infection in ten hospitals (catchment area 2,351,526 inhabitants) in the Valencia region (Spain).

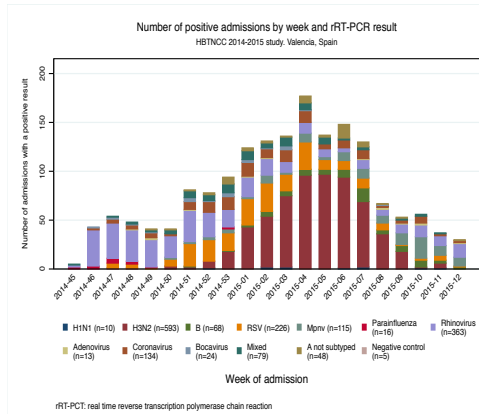
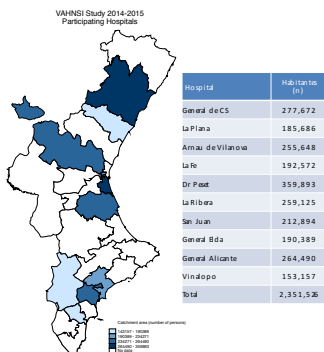
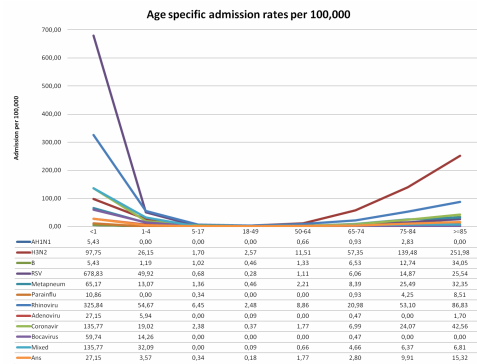
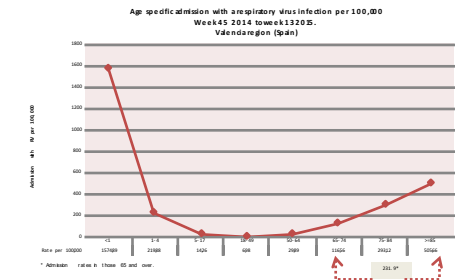
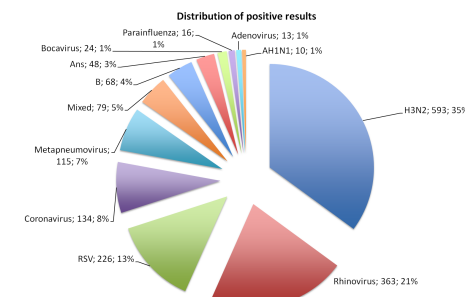
We identified all patients admitted with symptoms possibly associated with a recent viral infection. After consent, we obtained nasopharyngeal swabs that were tested by RT-PCR. We obtained population data from the health care Population Information System.

Results

From epidemiological week 45-2014 to 13-2015, we ascertained 9,363 eligible admissions, 87% consented to be included, 4,429 (47%) met all inclusion criteria and valid samples were available from 4,423 (47%).



Overall, 1,689 (38%) were positive for a RV: 741 (44%) influenza, 363 (21%) rhino/enterovirus, 226 (13%) respiratory syncytial virus, 134 (8%), coronavirus, 115 metapneumovirus (7%), 79 (5%) mixed infections and 1% or less for bocavirus, parainfluenza or adenovirus.



A(H3N2) was predominant (613, 83% of all influenza) with admission rates of 98 per 100,000 inhabitants <1 years old and 57, 139 and 252 admissions per 100,000 in patients 65-74, 75-84 and ≥ 85 years old, respectively. RSV admission rates were 679 per 100,000 inhabitants <1, 50 per 100,000 in those 1 to 4 years old, and 6, 15 and 26 per 100,000 in patients aged 65-74, 75-84 and ≥ 85, respectively. Rhino/enterovirus were associated with 326 admissions per 100,000 inhabitants <1 year old, 55 per 100,000 1 to 4, and 21, 53 and 87 per 100,000 in patients aged 65-74, 75-84 and ≥ 85, respectively. Admission rates with a RV were 1,575 per 100,000 inhabitants <1 years old, 210 in those 1 to 4 years old, and 232 per 100,000 in patients aged ≥ 65

Conclusion

The greatest burden of disease due to admissions with respiratory virus infection was observed mainly in children under one year of age with 1.6% children in their first year of life being admitted at least once. The incidence of admissions in the group of 1 to 4 years of age was similar to that experienced in the group aged 65 or more.