

Joint Event

Public Health, Women's Health, Nursing and Hospital Management

December 03-04, 2018 | Lisbon, Portugal



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### Year-long Rhinovirus detection in nostrills of young healthy volunteers

Rhinovirus are picornavirus with over 150 serotypes and 3 species. Although usually causing common colds, in Asthma, COPD and elders it may cause life-threatening disease. In the present study we evaluated the year-long presence of rhinovirus in the nostrills of healthy individuals in Porto, Portugal.

Monthly nasal swabs were collected from 89 volunteers. RNA was purified with Qiagen column-based kits. Viral RNA was quantified by RTqPCR on Lightcycler 1.1 (Roche).

Frequency of positive nasal samples showed a single peak in autumn with a maximum frequency of 40% in November (fig.1). A similar distribution was found for viral titers with a maximum in November, but with a second 100x weaker peak in spring (fig.1). Rhinovirus positivity was found to be more frequent (17%) in individuals reporting relevant symptoms (frequent sneezing, dripping nose, stuffy nose or nose symptoms plus lacrimation/eyes-pruritus) than in individuals with no such symptoms (6%), indicating that in most of these cases productive infection was taking place.

**Conclusions:** Rhinovirus circulation among healthy volunteers in Porto shows a strong peak in autumn, and a minor one in spring. The spring peak was only observed when nostril rhinovirus quantification is taken into account, as no increased frequency of rhinovirus was observed, but rather an increase in maximum viral titters among positive samples. The present results are in accordance with the literature reporting peaks of rhinovirus circulation in autumn and spring, but suggest the need to use sensitive and quantitative methods for the characterization of viral circulation in healthy populations.

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