
Joan Puig-Barberà,1 Aina Mira-Iglesias,1 Miguel Tortajada-Gibés,1 F. Xavier López-Labrador,1 Ángel Belenguer-Varea,1 Mario Carballido-Fernández,1 Empar Carbonell-Francolí,1 Concha Carabalá-Munuera1,2, Ramón Limón-Ramírez1,2, Joan Mollar-Maseras1,2, María del Carmen Otero-Reigada1,2, Germán Schwarz-Chavarrí1,2, José Tuñí1,2, Vicente Gil-Quilex1,2 for the Valencia Hospital Network for the Study of Influenza and Respiratory Viruses Disease


Background

The 2014/15 influenza season was characterized by the circulation of A(H3N2) viruses belonging to clade 3C2a and 3C3a, distinct from the A/(H3N2)/S/2012(H3N2)-like (clade 3C1) reference for the 2014/15 vaccine. In addition, B Yamagata lineage and few A(H1N1)pdm09 were identified. Preliminary influenza vaccine effectiveness (IVE) estimates in Europe and North America reported low to null IVE against confirmed influenza acute respiratory infection.

Methods

We performed a test-negative study in ten hospitals located in Valencia, Spain, that provided care to 2,351,526 inhabitants.

We enrolled consecutive consenting admissions of non-institutionalized, 18 years old or older subjects, with onset of influenza-like illness (ILI) within 7 days of hospitalization. We obtained combined nasopharyngeal swabs and influenza was confirmed by RT-PCR. A split trivalent vaccine (Vaxigrip; SANOFI PASTEUR MSD) was offered free of charge to subjects targeted for influenza vaccination. We considered a subject as immunized when vaccinated 15 or more days before ILI onset. We estimated IVE as (1-odds ratio)*100, taking into account clustering by hospital and epidemiological week.

Results

We enrolled 2,713 admissions, 652 influenza positive (546 (84%), A(H3N2); 56 (9%), B Yamagata; 37 (6%), A no subtyped; 9 (9%) A(H1N1)pdm09 and 4 (0.6%) B with no lineage.

Vaccination status

1,334 (65%) influenza negative were vaccinated compared to 382 (59%) influenza positive.

Conclusion

Vaccination conferred moderate protection against the risk of admission with influenza. Low effectiveness against A(H3N2) was most possibly due to mismatch, whereas, vaccination more than halved the risk of admission with influenza B.