2017-2018 Seasonal Vaccine Effectiveness Against Influenza Vaccination in Hospitalized Adult in France

I-REIVAC is the French network of clinical research in vaccinology whose the mission is to reinforce the visibility and the competitiveness of France in this field. To do this, I-REIVAC set up a scientific program with six axis of research including the studies on development of new vaccine anti-infective in preventive and therapeutic, the vaccination of particular population, vaccine effectiveness, immunomonitoring and immunological mechanisms, in human and social science to understand levers and breaks of vaccination and setting up of the biobank/tools with a collection of biological samples (sera, plasma, DNA and cells).

Methods

Patients hospitalized with an acute respiratory infection (ARI) within the 7 days before admission during the 2017/2018 influenza epidemic were screened; those swabbed less than 7 days after onset of symptoms were included and information on demographics, vaccination and underlying conditions were collected. Cases were patients with a positive influenza RT-PCR and controls, those negative for any influenza virus. Using logistic regression we calculated Influenza Vaccine effectiveness (IVE) against influenza A(H3N2) adjusted for potential confounders (onset month, age, gender, and chronic conditions).

Results

Figure 1: Influenza season 2017-2018: inclusions

- Patient’s inclusion date: 14th November 2017 (W46)
- Last patient’s inclusion date: 13th April 2018 (W15)
- Study period: W46 to W15 — N=713
- Influenza season: S49 – S15 — N=663
- Data of 648 patients were analyzed:
  - 113 Influenza A (90 H1N1, 21 H3N2, 2 untyped)
  - 108 Influenza B (96 Yamagata, 12 without lineage)

Figure 2: Patients Characteristics

Key aspects & challenges

- Our results show:
  - Co circulation of A/H1N1 and B/ Yamagata influenza viruses
  - However, the vaccine was effective against H1N1 and in the population aged 65 to 74,

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