Absence of association between 2019–20 influenza vaccination and COVID-19: results of the European I-MOVE-COVID-19 primary care project, March–August 2020

Esther Kissling¹, Mariette Hooiveld², Mia Brytting³, Ana-Maria Vilcu⁴, Marit de Lange⁵, Iván Martínez-Baz⁶, Debbie Sigerson⁷, Theresa Enkirch³, Sylvie Behillil⁸, Adam Meijer⁹, Jesus Castilla⁶, Naoma William⁷, AnnaSara Carnahan³, Alessandra Falchi¹⁰, Janneke Hendriksen², Itziar Casado Buesa¹¹, Josie Murray⁷, Vincent ENOUF¹², Frederika Dijkstra¹³, Diogo Marques¹⁴, and Marta Valenciano¹⁴

¹Epiconcept
²Nivel (Netherlands Institute for Health Services Research)
³Public Health Agency of Sweden
⁴Sorbonne Universités, UPMC Univ Paris 06, INSERM
⁵Rijksinstituut voor Volksgezondheid en Milieu
⁶Instituto de Salud Pública de Navarra - IdiSNA - CIBERESP
⁷Public Health Scotland
⁸Institut Pasteur
⁹National Institute for Public Health and the Environment (RIVM)
¹⁰Université de Corse-Inserm
¹¹Navarra Public Health Institute, IdiSNA - CIBERESP
¹²National Influenza Center, Paris, France
¹³Centre for Infectious Disease Control, National Institute for Public Health and the Environment
¹⁴Health Protection Scotland

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Abstract

Background Claims of influenza vaccination increasing COVID-19 risk are circulating. Within the I-MOVE-COVID-19 primary care multicentre study, we measured the association between 2019–20 influenza vaccination and COVID-19. Methods We conducted a multicentre test-negative case-control study at primary care level, in study sites in five European countries, from March–August 2020. Patients presenting with acute respiratory infection were swabbed, with demographic, 2019–20 influenza vaccination and clinical information documented. Using logistic regression we measured the adjusted odds ratio (aOR), adjusting for study site and age, sex, calendar time, presence of chronic conditions. The main analysis included patients swabbed within 7 days after onset from the three countries with <15% of missing influenza vaccination. In secondary analyses, we included five countries, using multiple imputation with chained equations to account for missing data. Results We included 257 COVID-19 cases and 1631 controls in the main analysis (three countries). The overall aOR between influenza vaccination and COVID-19 was 0.93 (95% CI: 0.66–1.32). The aOR was 0.92 (95% CI: 0.58–1.46) and 0.92 (95%CI: 0.51–1.67) among those aged 20–59 and ≥60 years, respectively. In secondary analyses, we included 6457 cases and 69272 controls. The imputed aOR was 0.87 (95% CI: 0.79–0.95) among all ages and any delay between swab and symptom onset. Conclusions There was no evidence that
COVID-19 cases were more likely to be vaccinated against influenza than controls. Influenza vaccination should be encouraged among target groups for vaccination. I-MOVE-COVID-19 will continue documenting influenza vaccination status in 2020-21, in order to learn about effects of recent influenza vaccination.

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