

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

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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 [?]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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