

Supplementary Table 1. Summary of the overall association between influenza vaccination and SARS-CoV-2 infection and clinical outcomes by crude OR

Outcomes	Number of studies	I ² value (%)	P value	Crude OR (95%CI)	
				Fixed effect model	Random effect model
SARS-CoV-2 infection	9	41.1	0.09	1.00 (0.96-1.04)	0.99 (0.78-1.25)
Intensive care	2	68.2	0.08	0.55 (0.34-0.87)	0.57 (0.20-1.62)
Hospitalization	3	87.6	<0.01	1.21 (1.11-1.33)	0.83 (0.37-1.84)
Mortality	3	82.5	<0.01	1.13 (0.98-1.30)	1.13 (0.98-1.30)

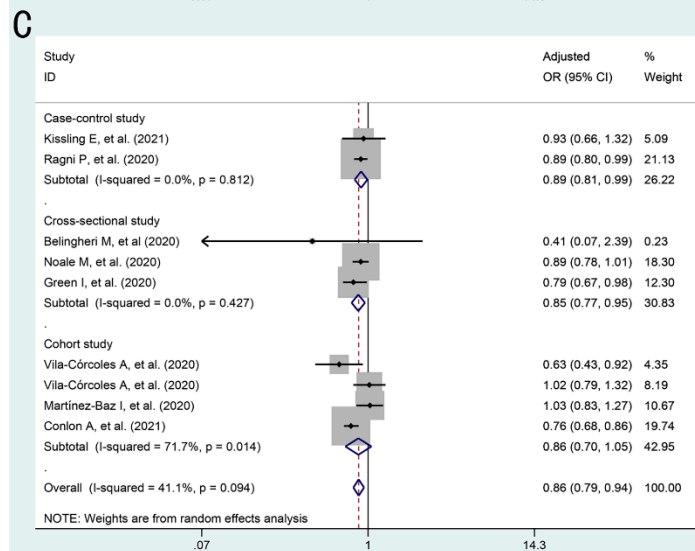
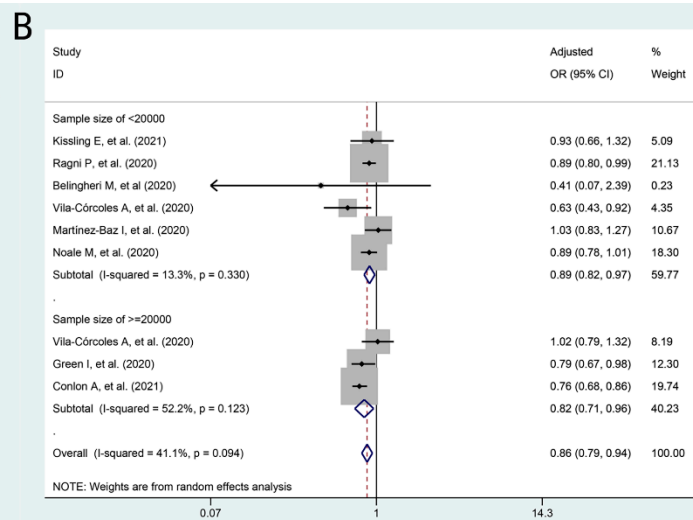
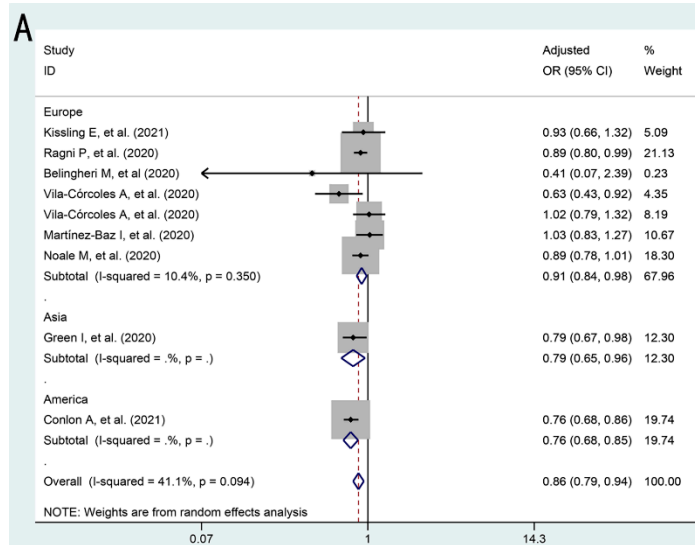
Supplementary Table 2. Subgroup analyses of the association between influenza vaccination and SARS-CoV-2 infection by crude OR

Grouping variables	No. of studies	Crude OR (95%CI)	I ² value (%)	P value	Crude OR (95%CI)	I ² value (%)	P value
Region	12			<0.01 ^a			<0.01 ^a
Europe	7	1.27 (1.20-1.34)	93.2	<0.01 ^b	1.37 (1.07-1.75)	93.2	<0.01 ^b

Asia	2	0.52 (0.46-0.60)	94.5	<0.01 ^b	0.16 (0.01-2.13)	94.5	<0.01 ^b
America	3	0.80 (0.75-0.86)	13.1	0.32 ^b	0.80 (0.74-0.87)	13.1	0.32 ^b
Sample size	12			0.85 ^a			0.85 ^a
Sample size <10000	5	1.03 (0.94-1.14)	90.6	<0.01 ^b	0.89 (0.58-1.36)	90.6	<0.01 ^b
10000<=sample size<20000	3	1.13 (1.06-1.20)	95.4	<0.01 ^b	1.03 (0.72-1.48)	95.4	<0.01 ^b
Sample size >=20000	4	0.85 (0.80-0.91)	98.3	<0.01 ^b	1.03 (0.60-1.77)	98.3	<0.01 ^b
Study design				<0.01 ^a			0.23 ^a
Case-control study	3	1.21 (1.13-1.30)	93.7	<0.01 ^b	0.64 (0.30-1.37)	93.7	<0.01 ^b
Cross-sectional study	3	0.77 (0.71-1.84)	94.8	<0.01 ^b	0.79 (0.51-1.24)	94.8	<0.01 ^b
Cohort study	6	0.98 (0.93-1.05)	96.9	<0.01 ^b	1.18 (0.81-1.71)	96.9	<0.01 ^b

a: P value for subgroup difference.

b: P value for heterogeneity.



Supplementary Figure 1: Forest plots for subgroup analysis on the association between influenza vaccination and SARS-CoV-2 infection by random effects model: (A) stratified by region (B) stratified by sample size (C) stratified by study design.