

Figure S1. Funnel plots for meta-analysis regarding the prevalence of COVID-19 in patients with autoimmune diseases

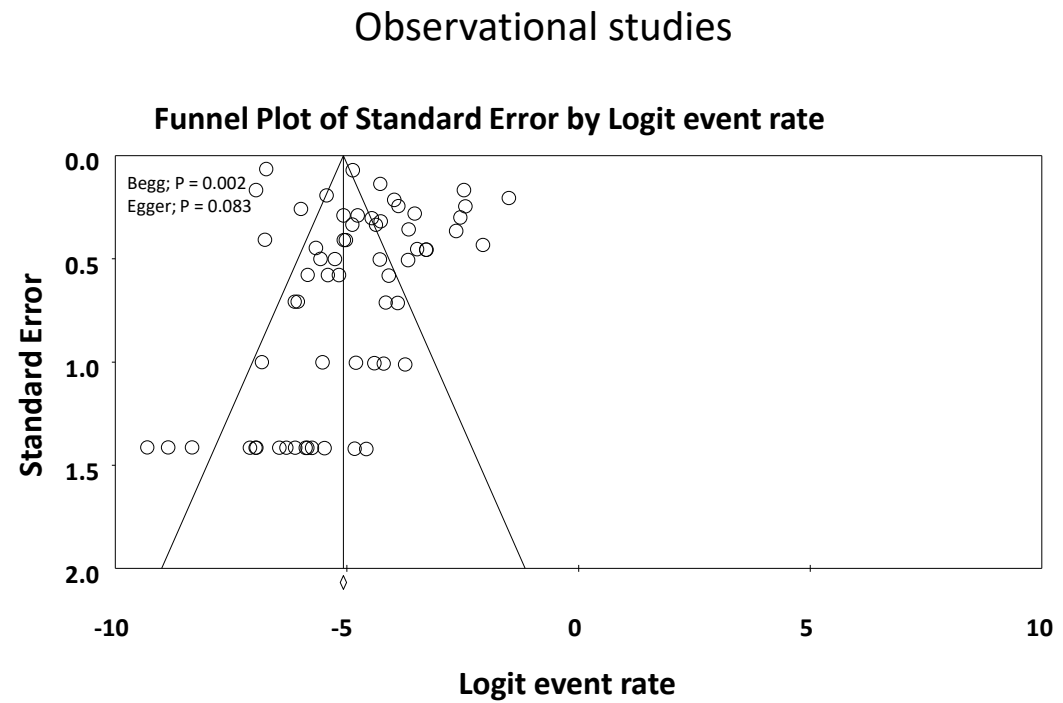
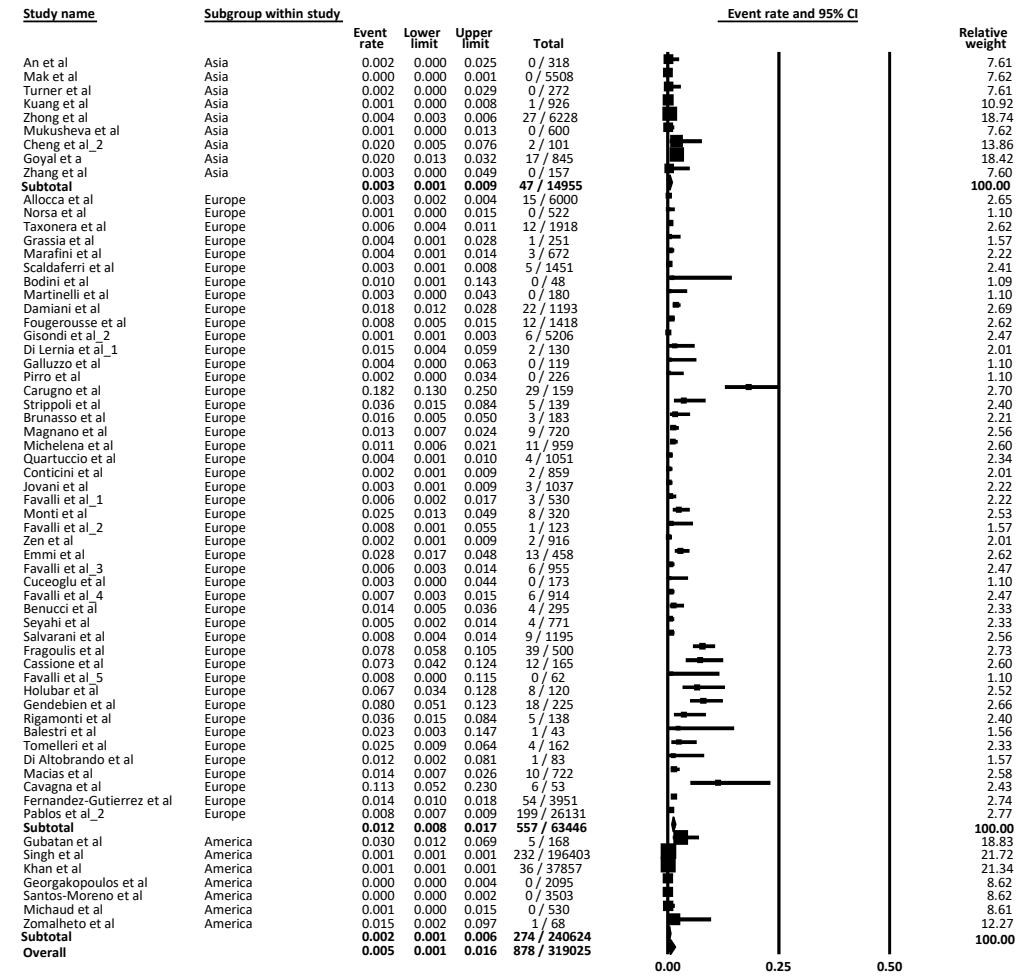


Figure S2. Meta-analysis regarding the prevalence of COVID-19 in patients with autoimmune diseases (by country)



Asia; $P < 0.001$, Heterogeneity: $I^2 = 82.2\%$, $Q = 45.1$, $P < 0.001$
Europe; $P < 0.001$, Heterogeneity: $I^2 = 93.5\%$, $Q = 687.3$, $P < 0.001$
America; $P < 0.001$, Heterogeneity: $I^2 = 90.4\%$, $Q = 62.7$, $P < 0.001$
Overall; $P < 0.001$, Heterogeneity: $I^2 = 96.8\%$, $Q = 1888.7$, $P < 0.001$

Figure S3. Funnel plots for meta-analysis regarding the prevalence of COVID-19 in patients with autoimmune diseases

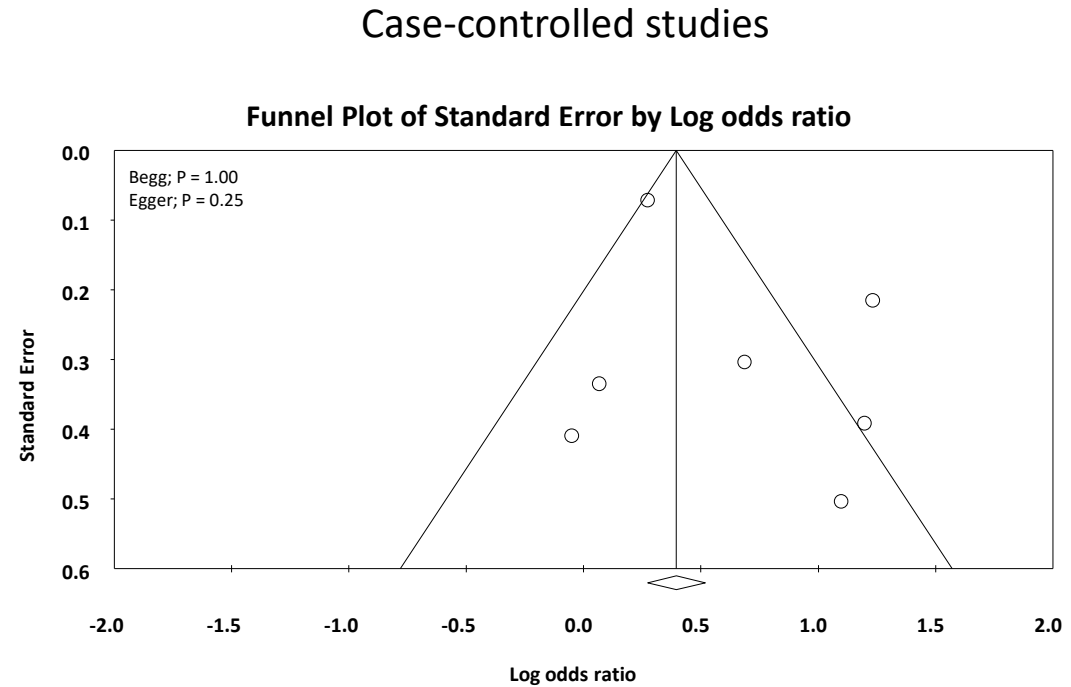
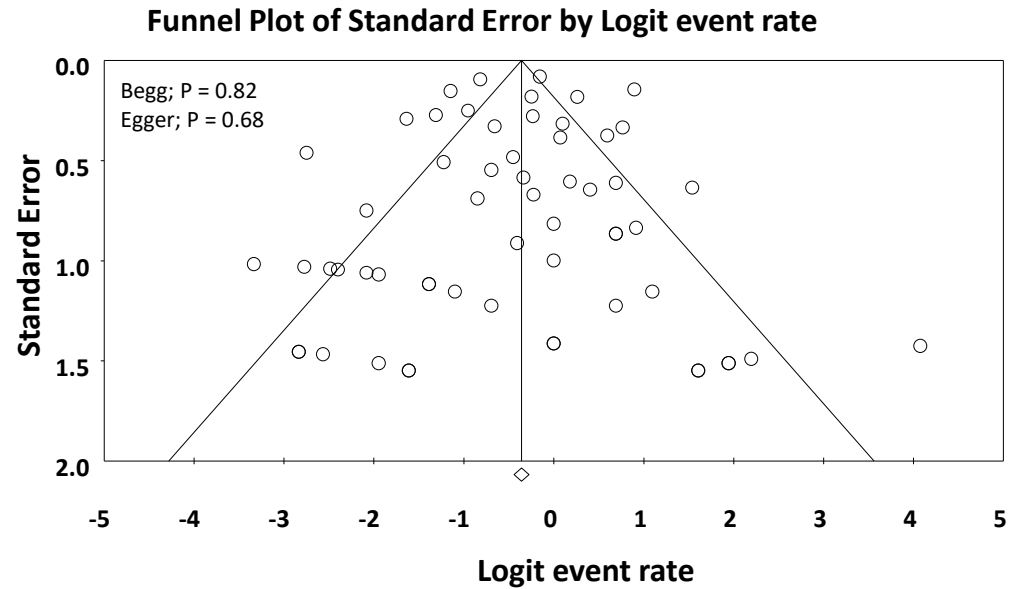


Figure S4. Funnel plots for meta-analysis regarding clinical outcomes of COVID-19 in patients with autoimmune diseases (Observational studies)

(A) Hospitalization



(B) Death

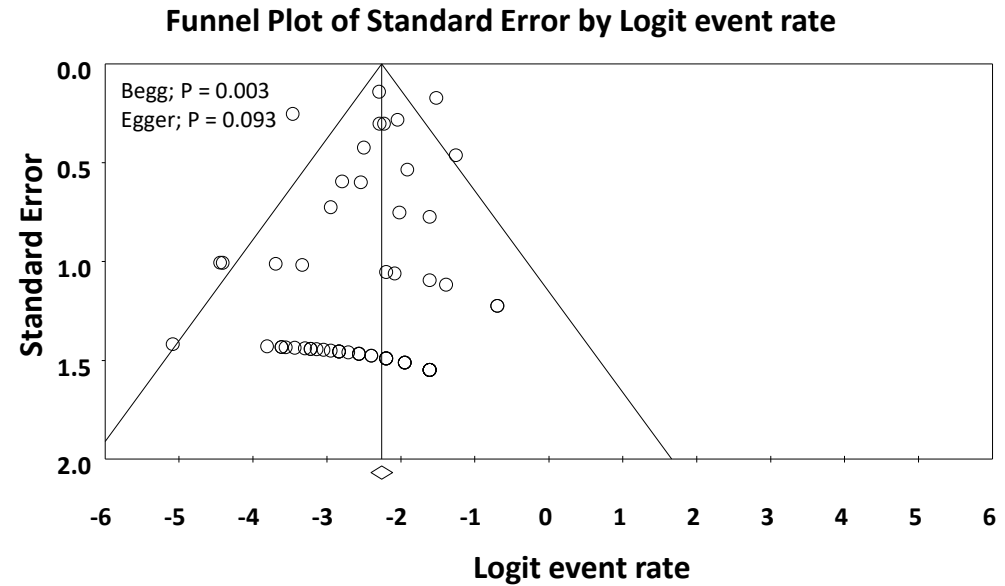
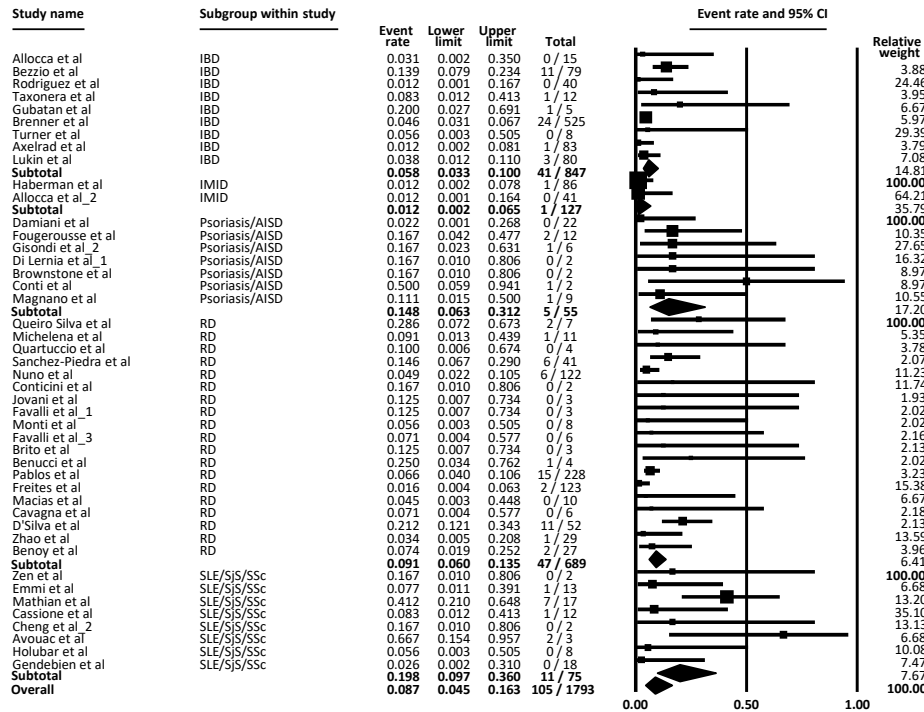


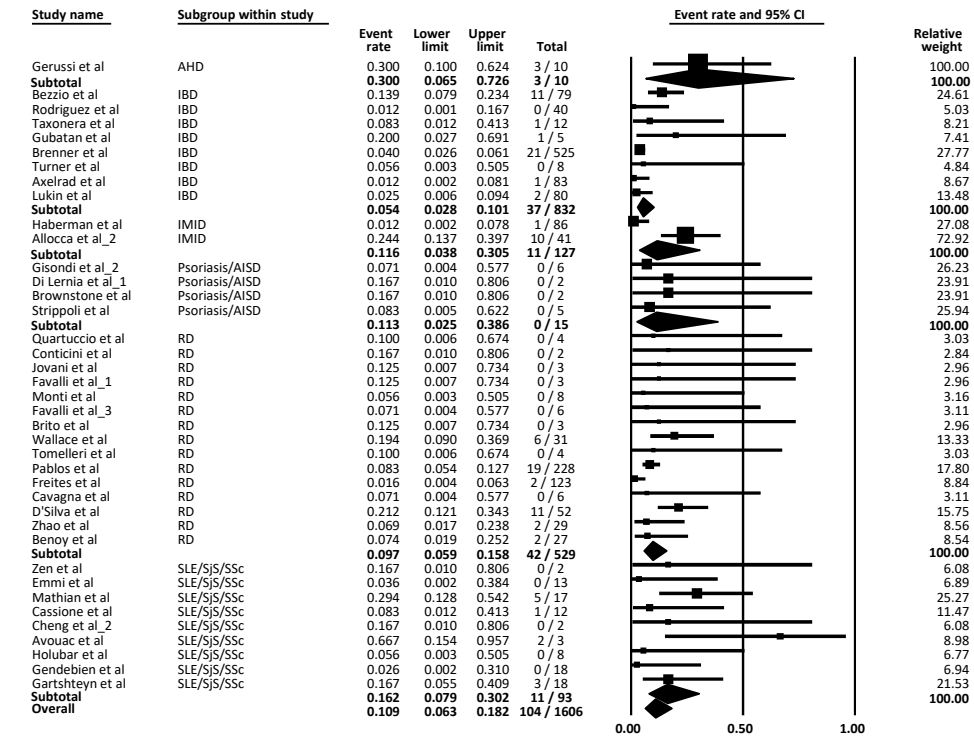
Figure S5. Meta-analysis regarding severe COVID-19 in patients with autoimmune diseases (observational studies)

(A) ICU admission



IBD; $P < 0.001$, Heterogeneity: $I^2 = 51.9\%$, $Q = 16.6$, $P = 0.034$
 IMID (Immune-mediated inflammatory disease); $P < 0.001$, Heterogeneity: $I^2 = 0\%$, $Q = 0.00$, $P = 0.989$
 Psoriasis/AISD (Autoimmune skin disease); $P < 0.001$, Heterogeneity: $I^2 = 0\%$, $Q = 3.76$, $P = 0.709$
 RD; $P < 0.001$, Heterogeneity: $I^2 = 31.5\%$, $Q = 26.3$, $P = 0.093$
 SLE/SjS/SSc; $P < 0.001$, Heterogeneity: $I^2 = 43.5\%$, $Q = 12.4$, $P = 0.089$
 Overall: $P < 0.001$, Heterogeneity: $I^2 = 48.7\%$, $Q = 85.8$, $P < 0.001$

(B) Mechanical/non-invasive ventilation



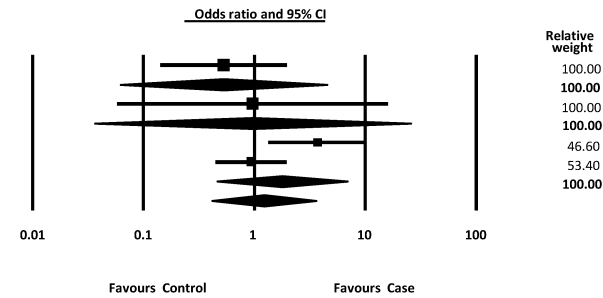
AHD (Autoimmune hepatic disease); $P = 0.362$, Heterogeneity: $I^2 = 0\%$, $Q = 0.00$, $P = 1.000$
 IBD; $P < 0.001$, Heterogeneity: $I^2 = 63.0\%$, $Q = 18.9$, $P = 0.008$
 IMID (Immune-mediated inflammatory disease); $P = 0.001$, Heterogeneity: $I^2 = 89.6\%$, $Q = 9.58$, $P = 0.002$
 Psoriasis/AISD (Autoimmune skin disease); $P = 0.011$, Heterogeneity: $I^2 = 0\%$, $Q = 0.34$, $P = 0.952$
 RD; $P < 0.001$, Heterogeneity: $I^2 = 23.6\%$, $Q = 18.3$, $P = 0.192$
 SLE/SjS/SSc; $P < 0.001$, Heterogeneity: $I^2 = 19.4\%$, $Q = 9.93$, $P = 0.270$
 Overall: $P < 0.001$, Heterogeneity: $I^2 = 54.6\%$, $Q = 83.7$, $P < 0.001$

Figure S6. Clinical outcomes of COVID-19 in patients with autoimmune diseases (case-controlled studies)

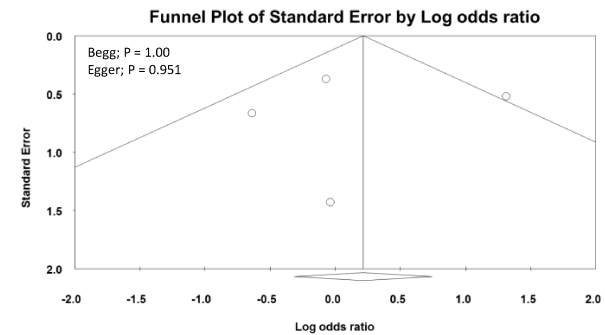
(A) Meta-analysis (ICU admission)

Study name	Subgroup within study	Odds ratio		ICU / Total		
		Lower limit	Upper limit	Cases	Control	
Lukin et al	IBD	0.528	0.143	1.948	3 / 80	11 / 160
Subtotal		0.528	0.062	4.501	3 / 80	11 / 160
Damiani et al	Psoriasis	0.963	0.058	15.878	0 / 22	1236 / 54801
Subtotal		0.963	0.036	25.533	0 / 22	1236 / 54801
D'Silva et al	RD	3.718	1.347	10.264	11 / 52	7 / 104
Pablos et al	RD	0.933	0.450	1.936	15 / 228	16 / 228
Subtotal		1.777	0.460	6.866	26 / 280	23 / 332
Overall		1.222	0.415	3.597	29 / 382	1270 / 55293

IBD; $P = 0.559$, Heterogeneity: $I^2 = 0\%$, $Q = 0.00$, $P = 1.000$
 Psoriasis; $P = 0.982$, Heterogeneity: $I^2 = 0\%$, $Q = 0.00$, $P = 1.000$
 RD; $P = 0.404$, Heterogeneity: $I^2 = 78.7\%$, $Q = 4.70$, $P = 0.030$
 Overall: $P = 0.716$, Heterogeneity: $I^2 = 55.6\%$, $Q = 6.75$, $P = 0.080$



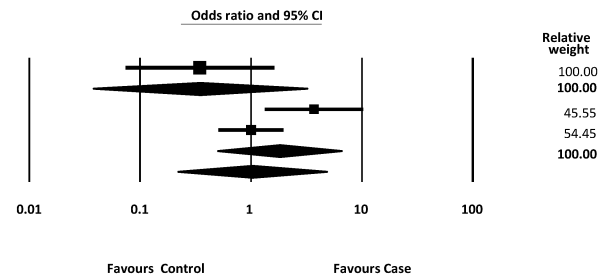
(C) Funnel plot (ICU admission)



(B) Meta-analysis (Mechanical/non-invasive ventilation)

Study name	Subgroup within study	Odds ratio		Ventilation / Total		
		Lower limit	Upper limit	Case	Control	
Lukin et al	IBD	0.347	0.075	1.606	2 / 80	11 / 160
Subtotal		0.347	0.038	3.192	2 / 80	11 / 160
D'Silva et al	RD	3.718	1.347	10.264	11 / 52	7 / 104
Pablos et al	RD	1.000	0.515	1.943	19 / 228	19 / 228
Subtotal		1.819	0.505	6.552	30 / 280	26 / 332
Overall		1.028	0.220	4.806	32 / 360	37 / 492

IBD; $P = 0.350$, Heterogeneity: $I^2 = 0\%$, $Q = 0.00$, $P = 1.000$
 RD; $P = 0.360$, Heterogeneity: $I^2 = 77.8\%$, $Q = 4.50$, $P = 0.034$
 Overall: $P = 0.972$, Heterogeneity: $I^2 = 73.5\%$, $Q = 7.55$, $P = 0.023$



(D) Funnel plot (Ventilation)

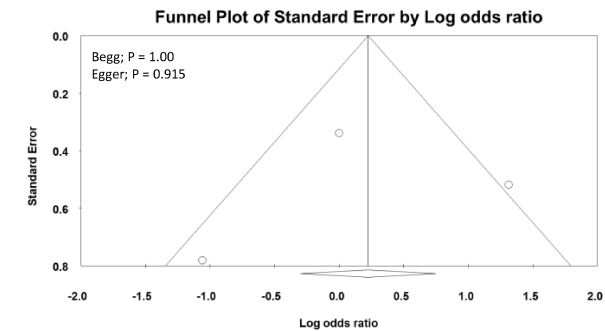


Figure S7. Funnel plots for meta-analysis regarding clinical outcomes of COVID-19 in patients with autoimmune diseases (case-controlled studies)

