

Forest plot comparison graphics: Risk of severe Covid-19 disease

Glossary

ADJ=0: crude estimate

ADJ=1: adjust estimate

LRB=0: moderate and high risk of bias

LRB=1: low risk of bias

MRB=0: High risk of bias

MRB=1: moderate and low risk of bias

ALT: Alanine aminotransferase

APTT: activated partial thromboplastin time

APACHE: Acute Physiology and Chronic Health Evaluation II

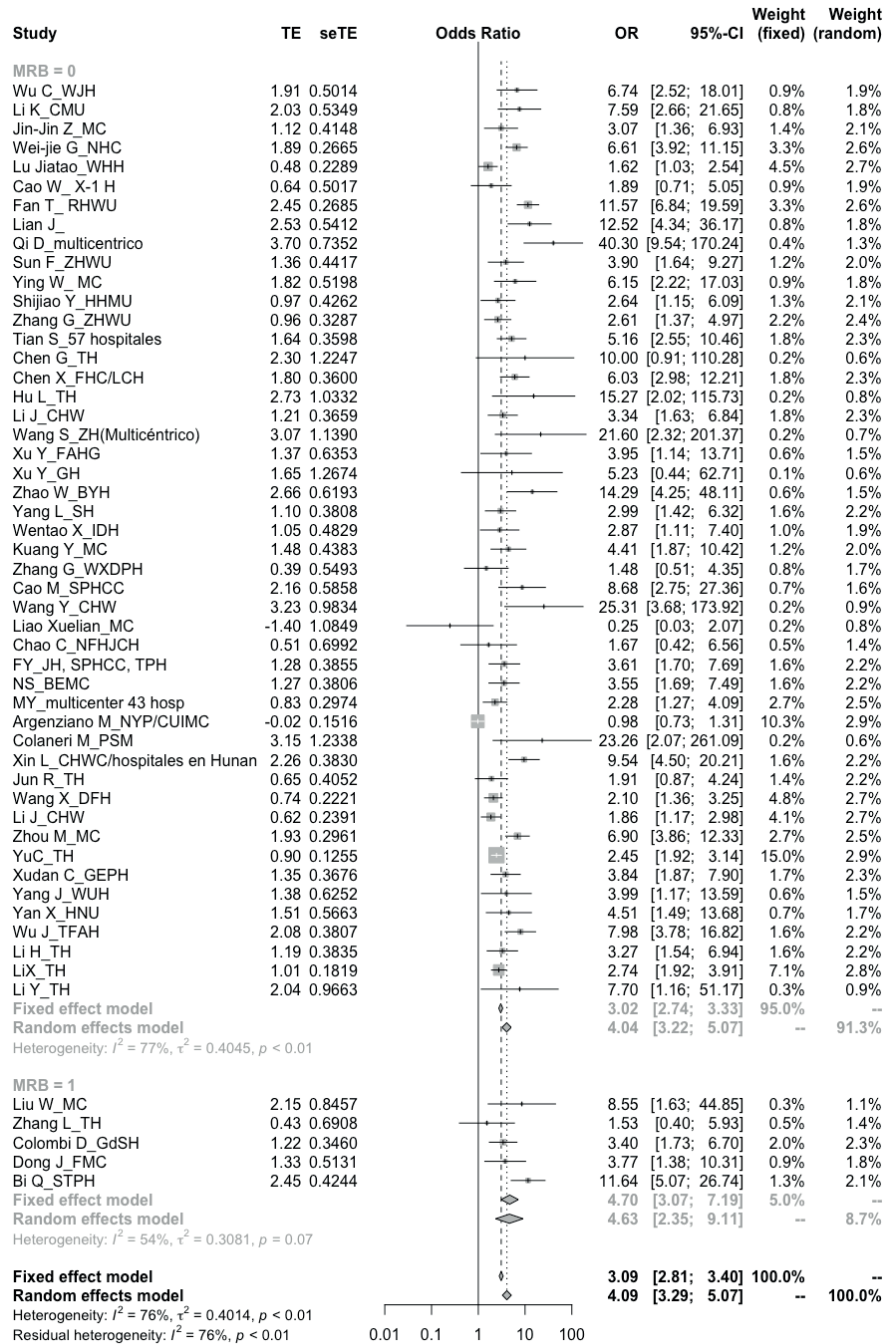
AST: Aspartate aminotransferase

BUN: Blood urea nitrogen

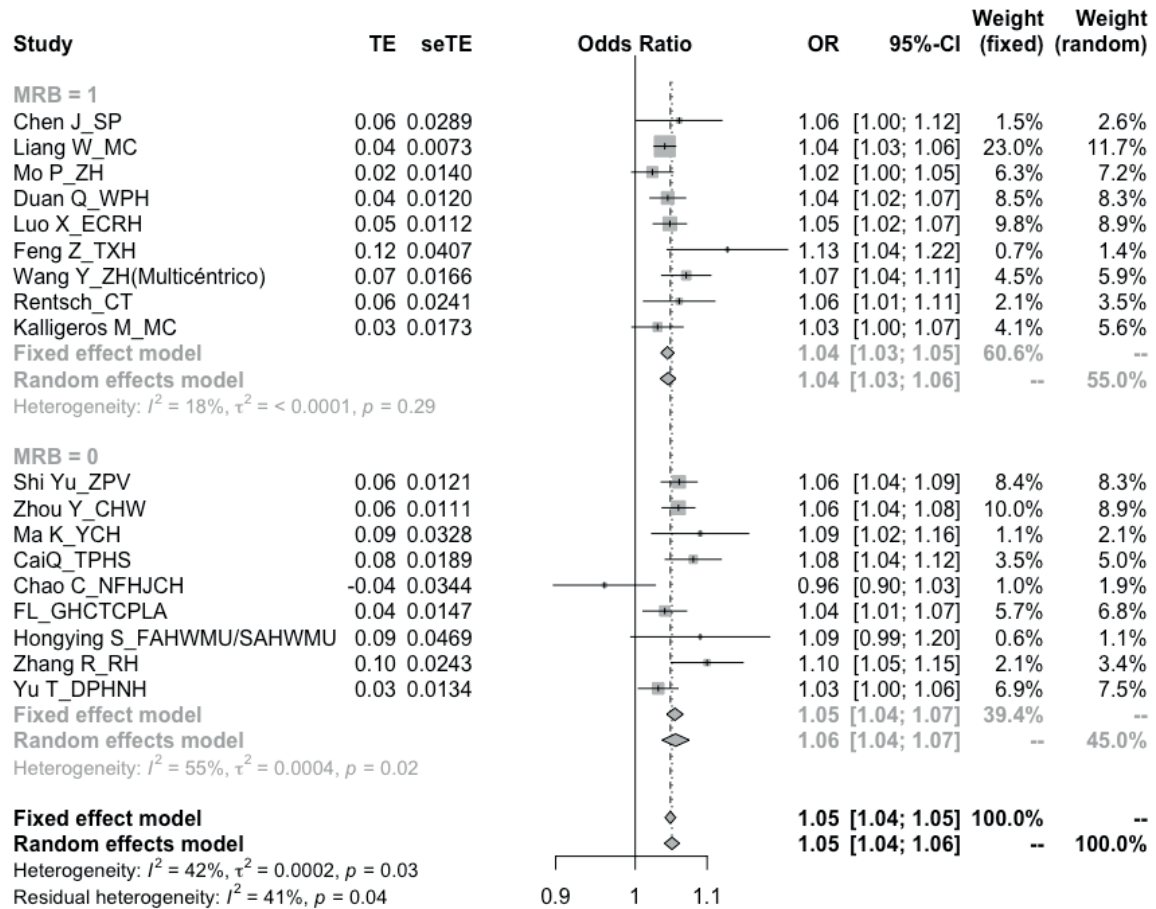
PT: prothrombin time

SOFA: The sequential organ failure assessment score

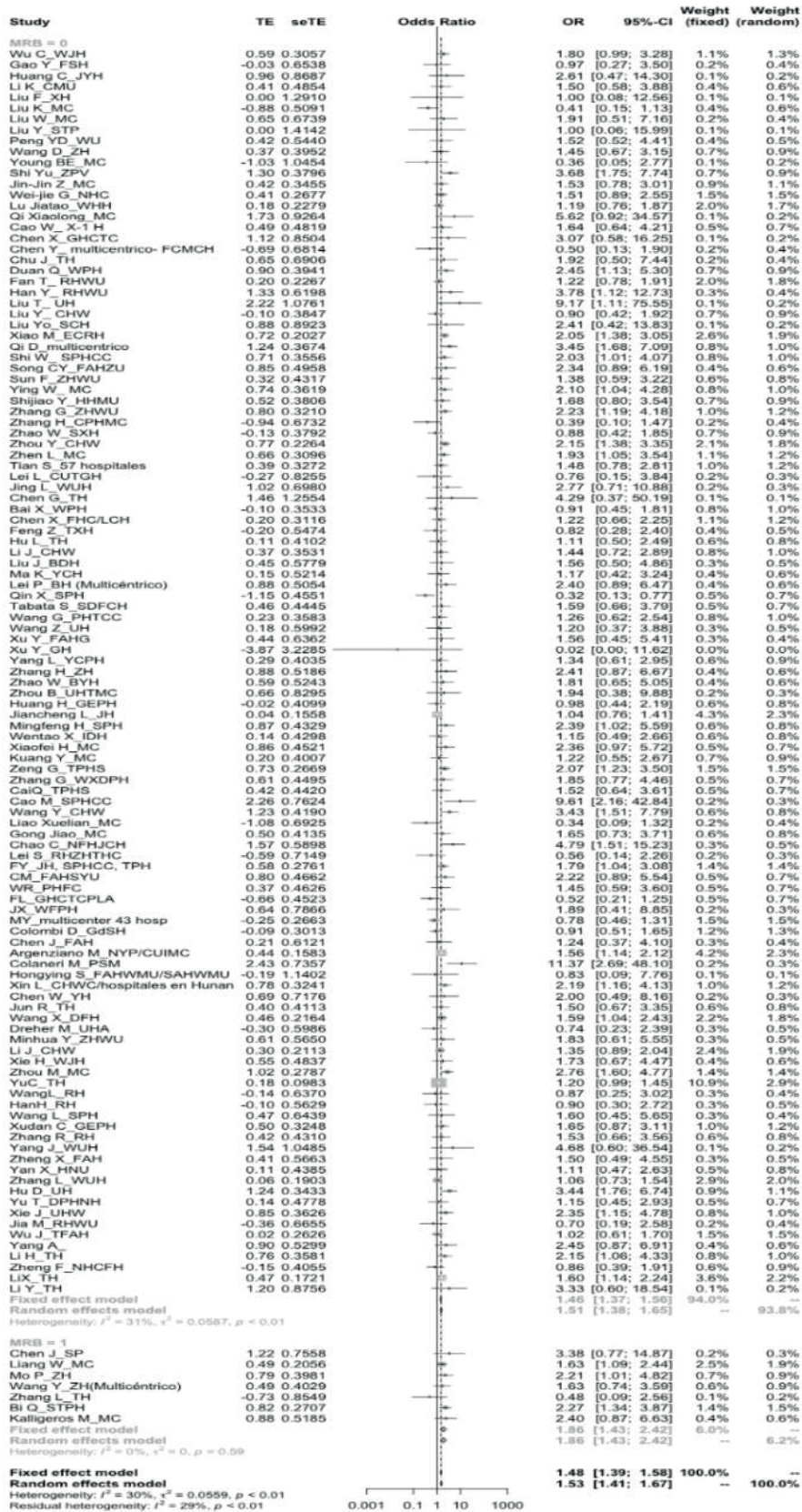
Candidate variable: Age (older than 50 - 65 years), outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



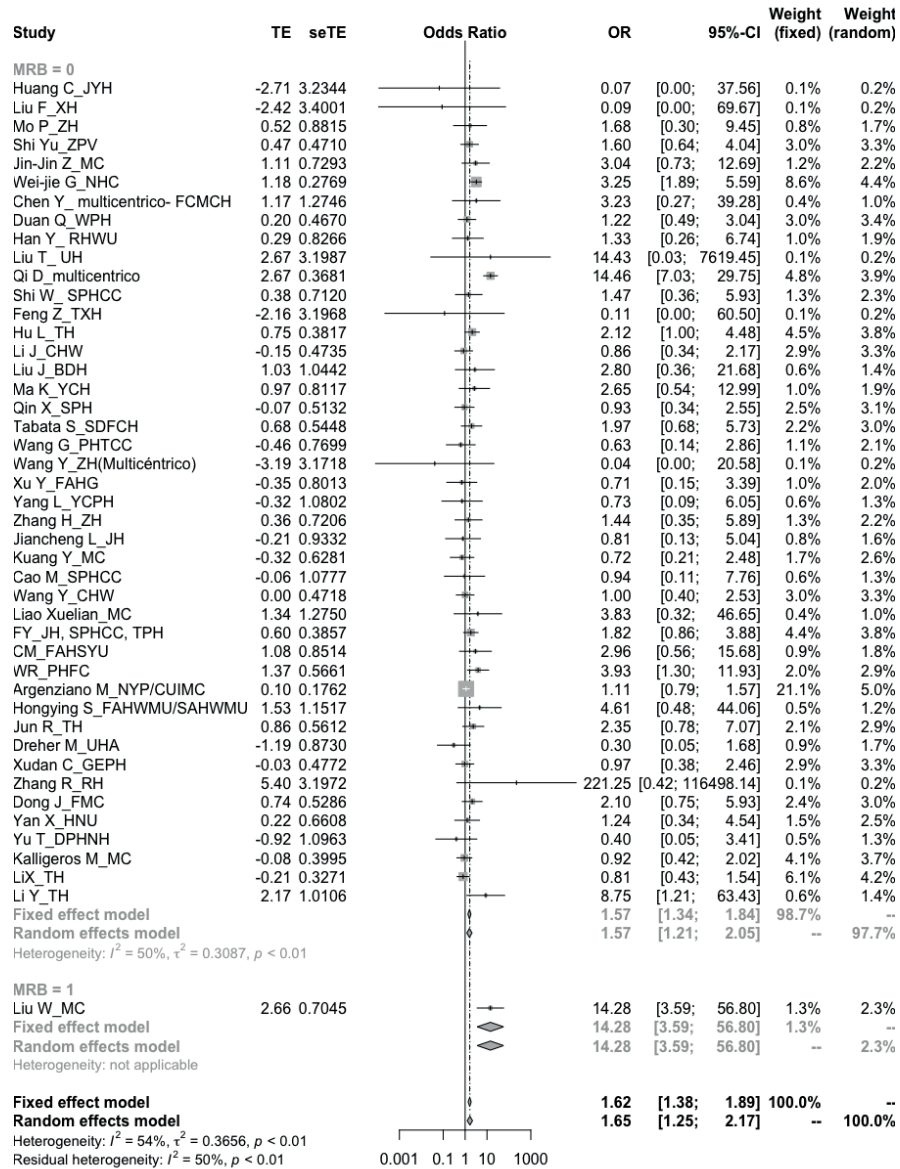
Candidate variable: Age increase (per 1 year), outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



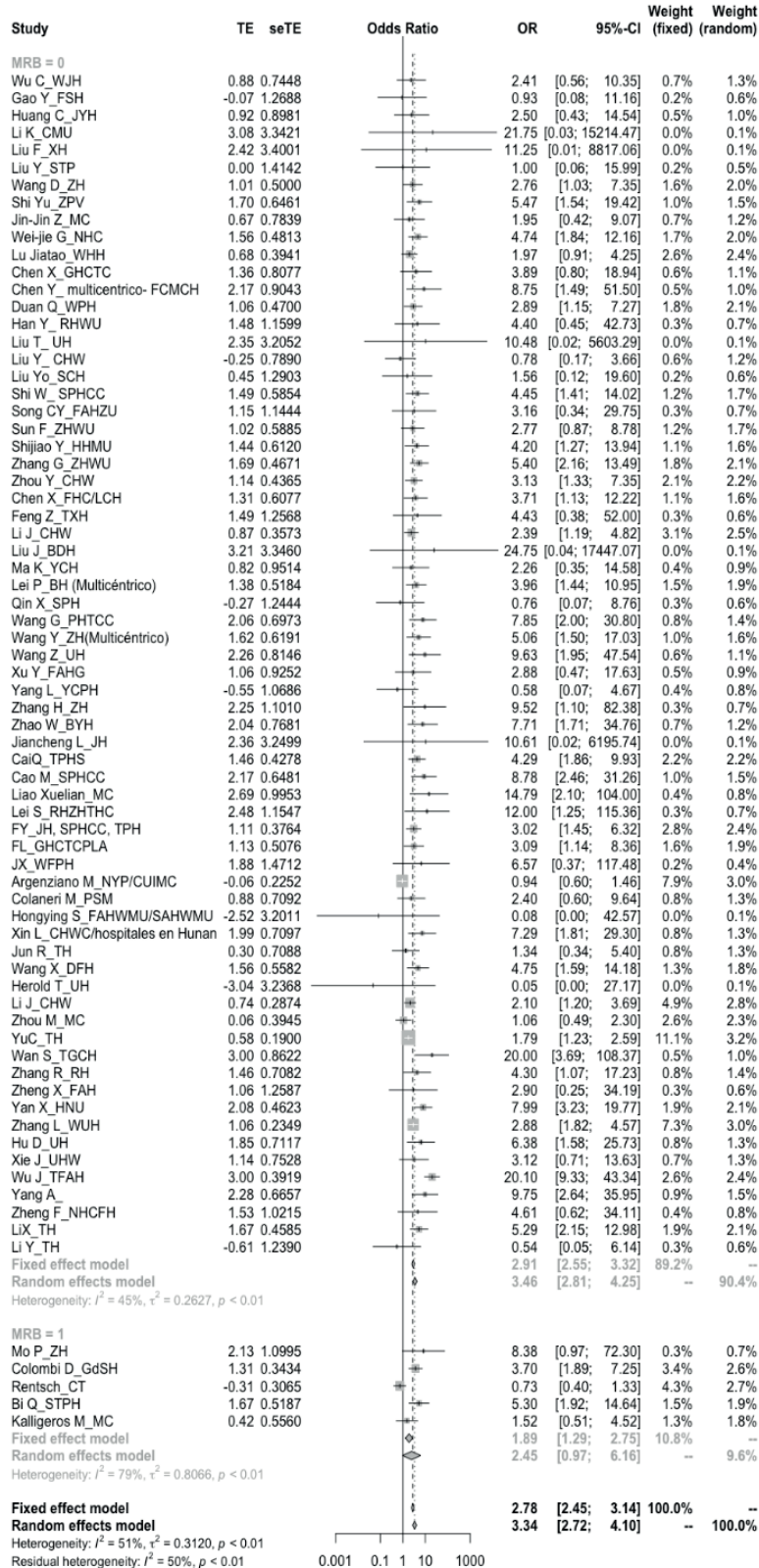
Candidate variable: Male gender, outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



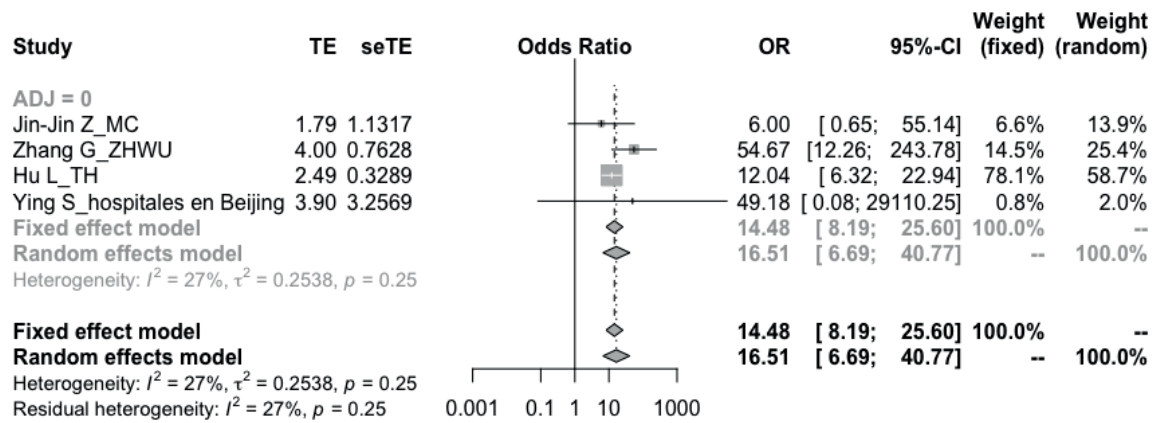
Candidate variable: Smoking (Active, present smoker), outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



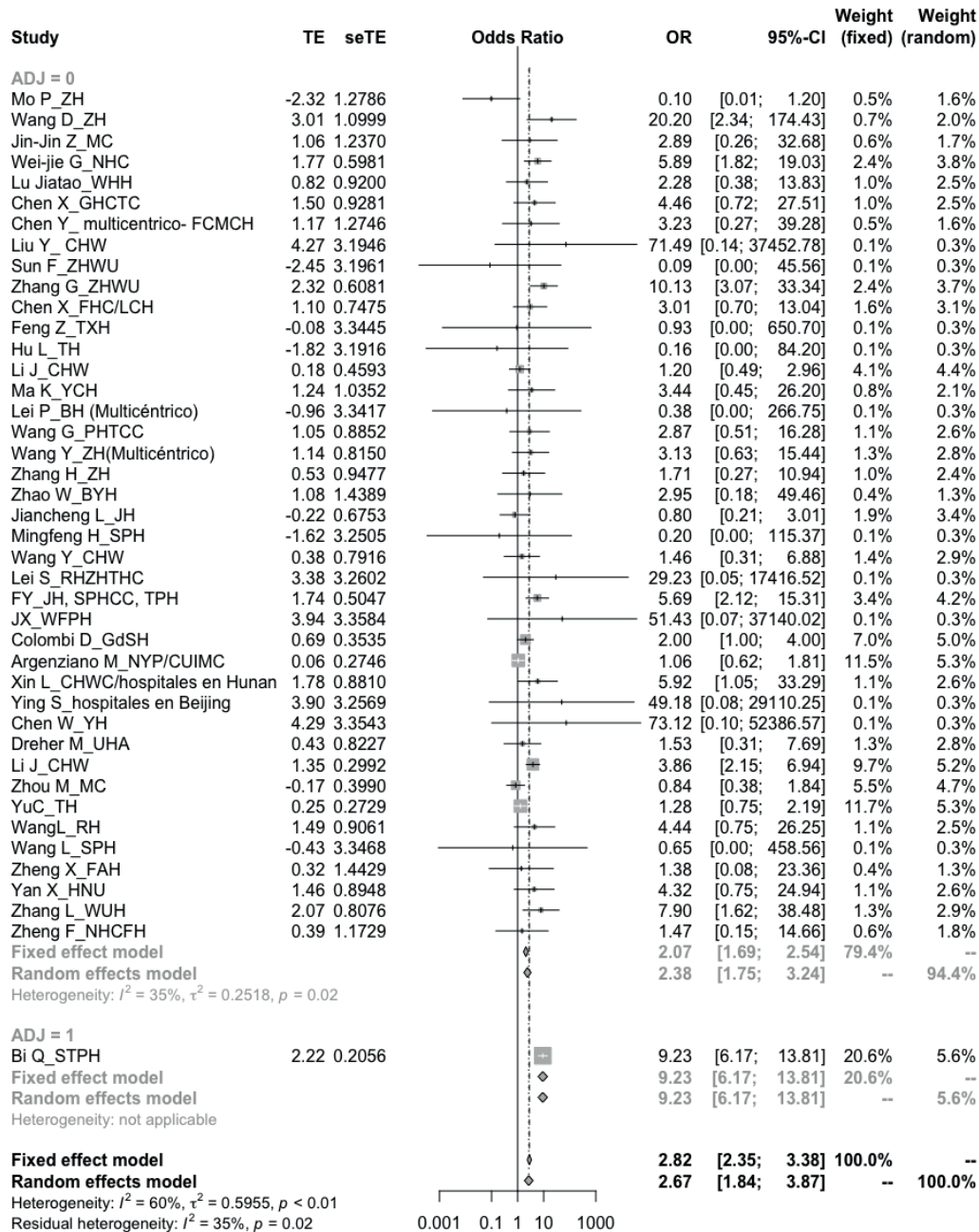
Candidate variable: Cardiovascular disease (coronary heart disease or congestive heart failure), outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



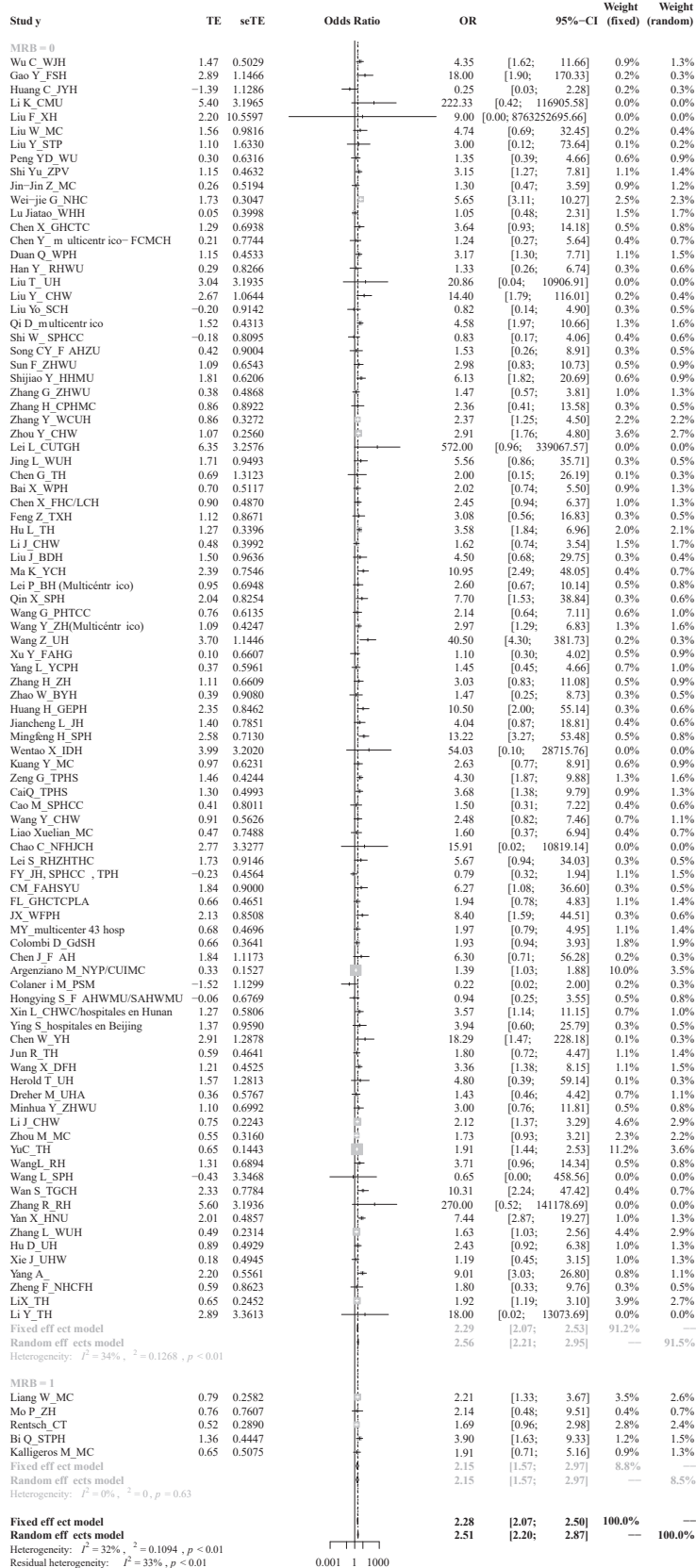
Candidate variable: Cardiac arrhythmia (as previous condition or new clinical finding), outcome: severe Covid-19 disease



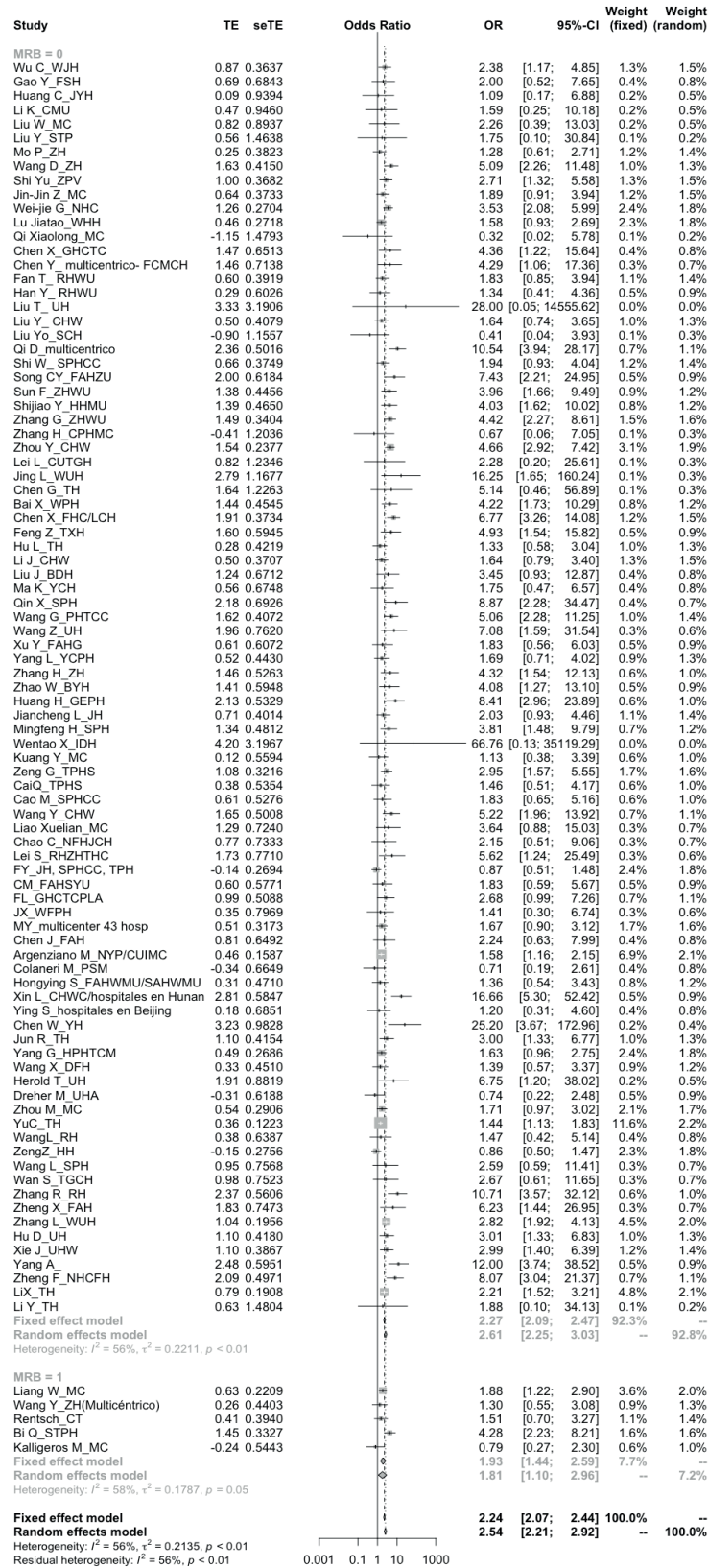
Candidate variable: Cerebrovascular disease (History of stroke or CNS disease), outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



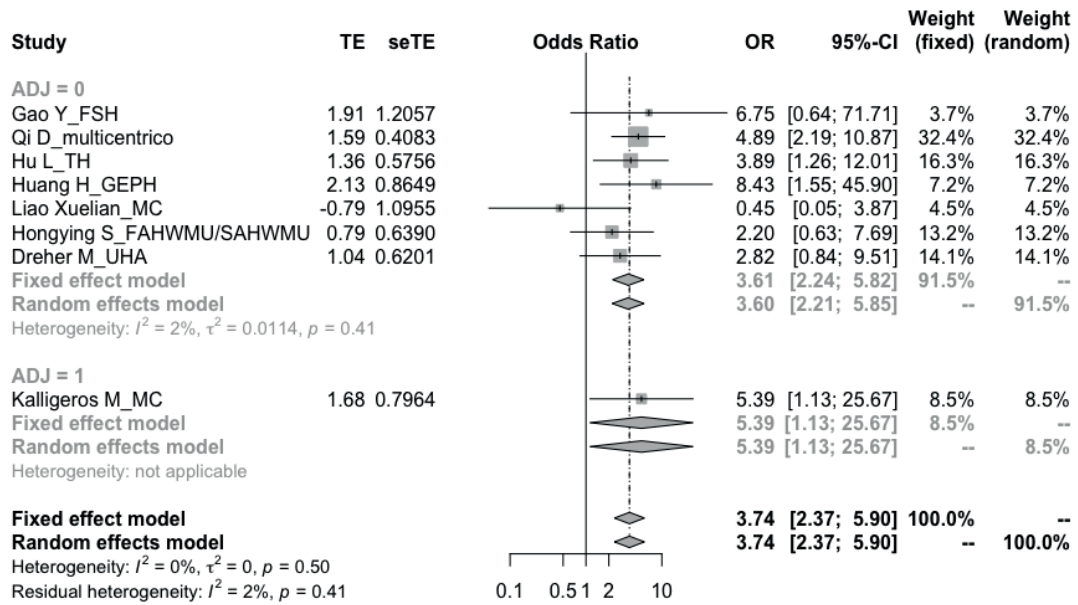
Candidate variable: Diabetes, outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



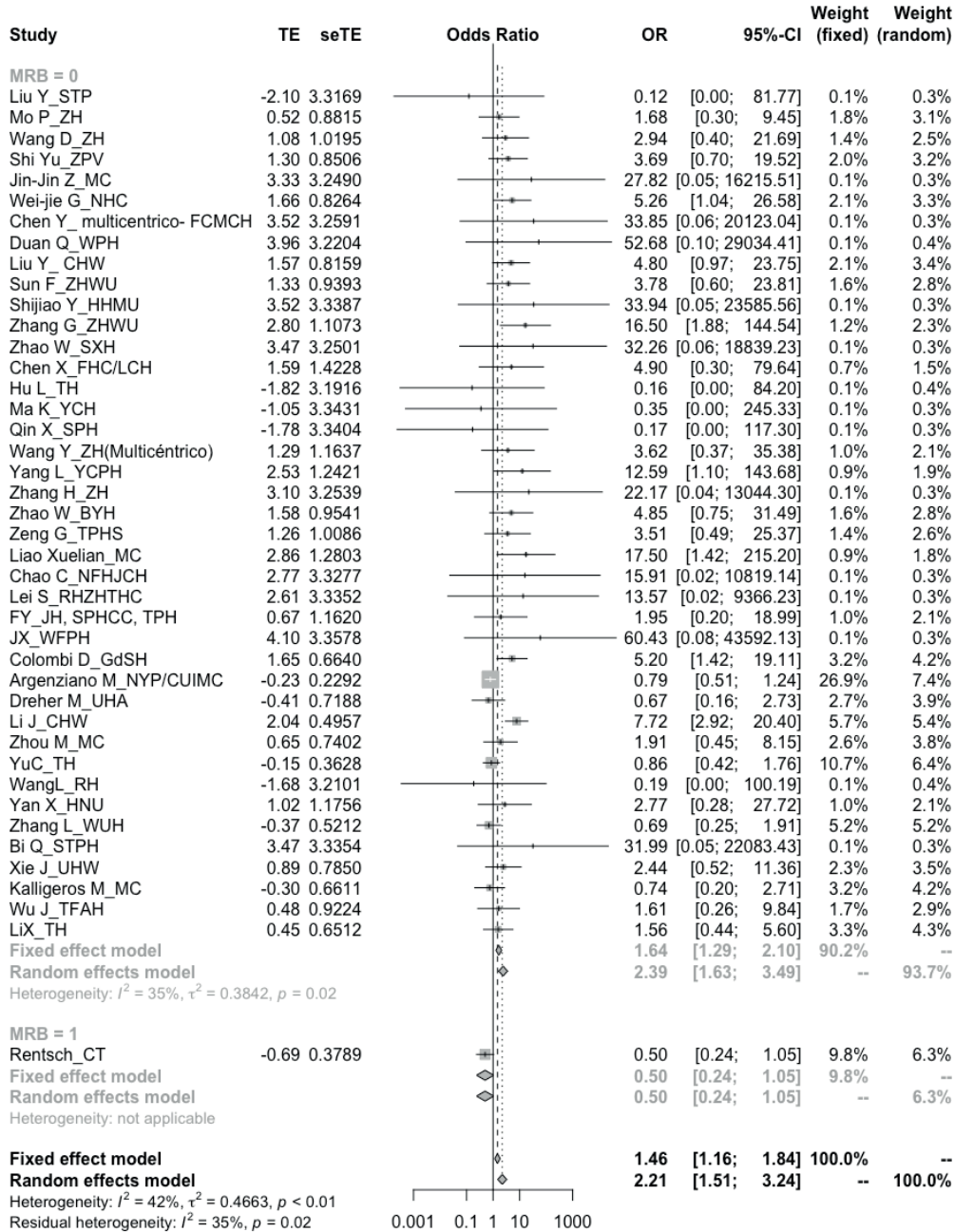
Candidate variable: Arterial hypertension, outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



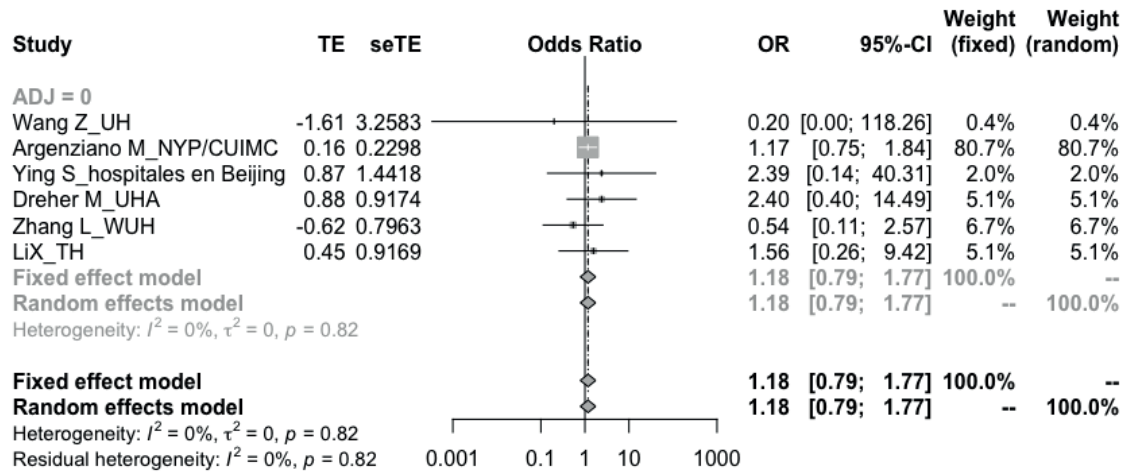
Candidate variable: Obesity, outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



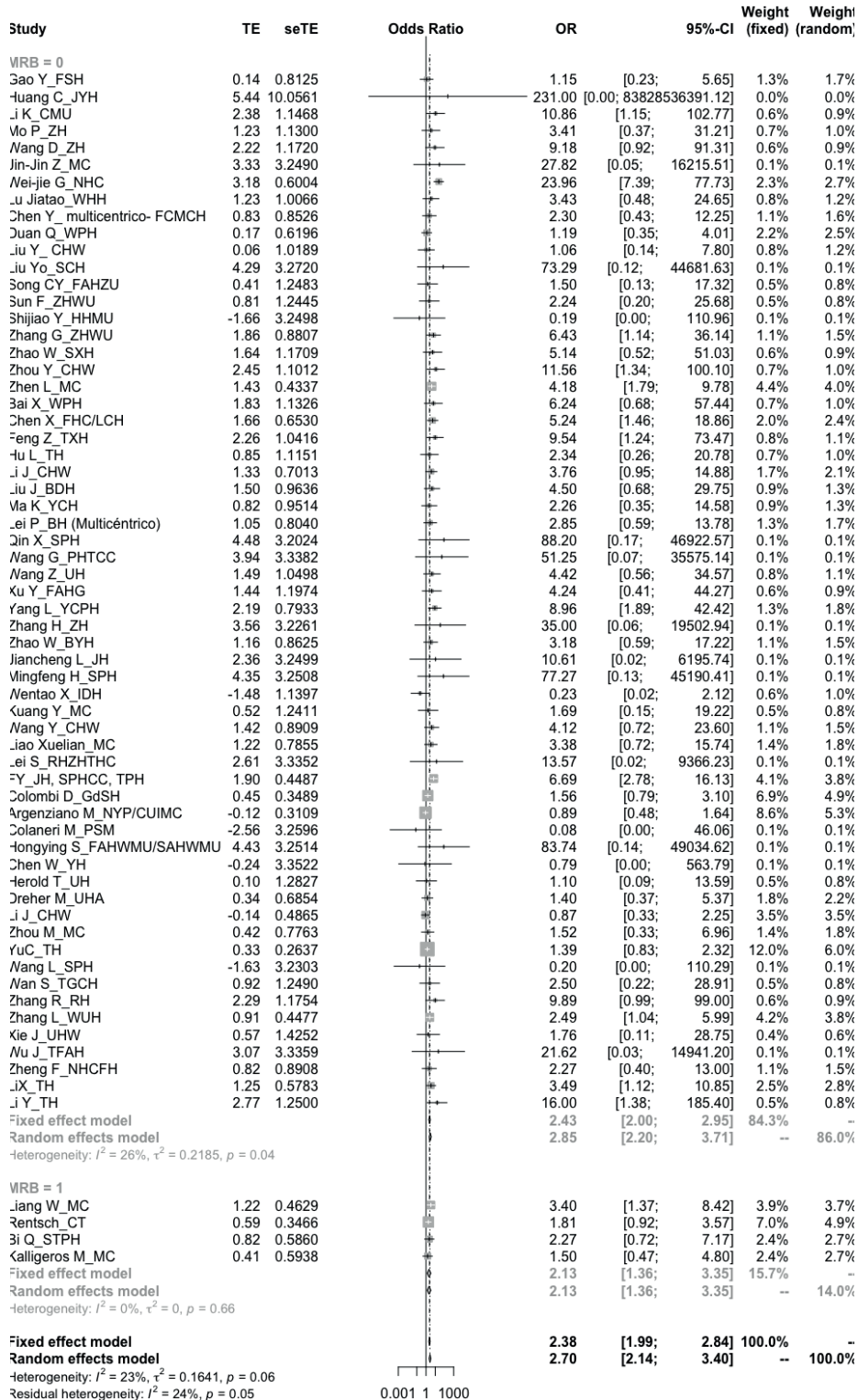
Candidate variable: Chronic kidney disease, outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



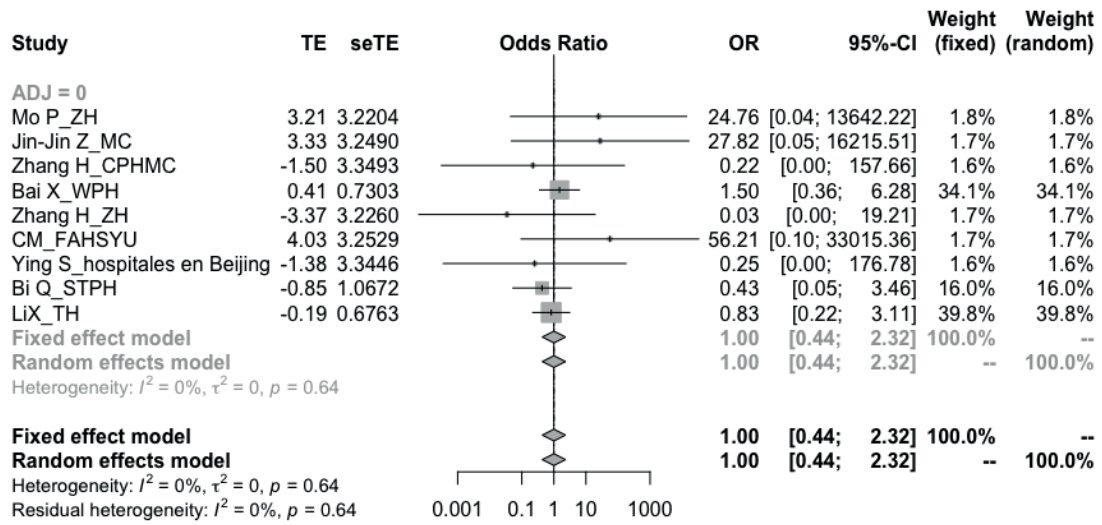
Candidate variable: Asthma, outcome: severe Covid-19 disease



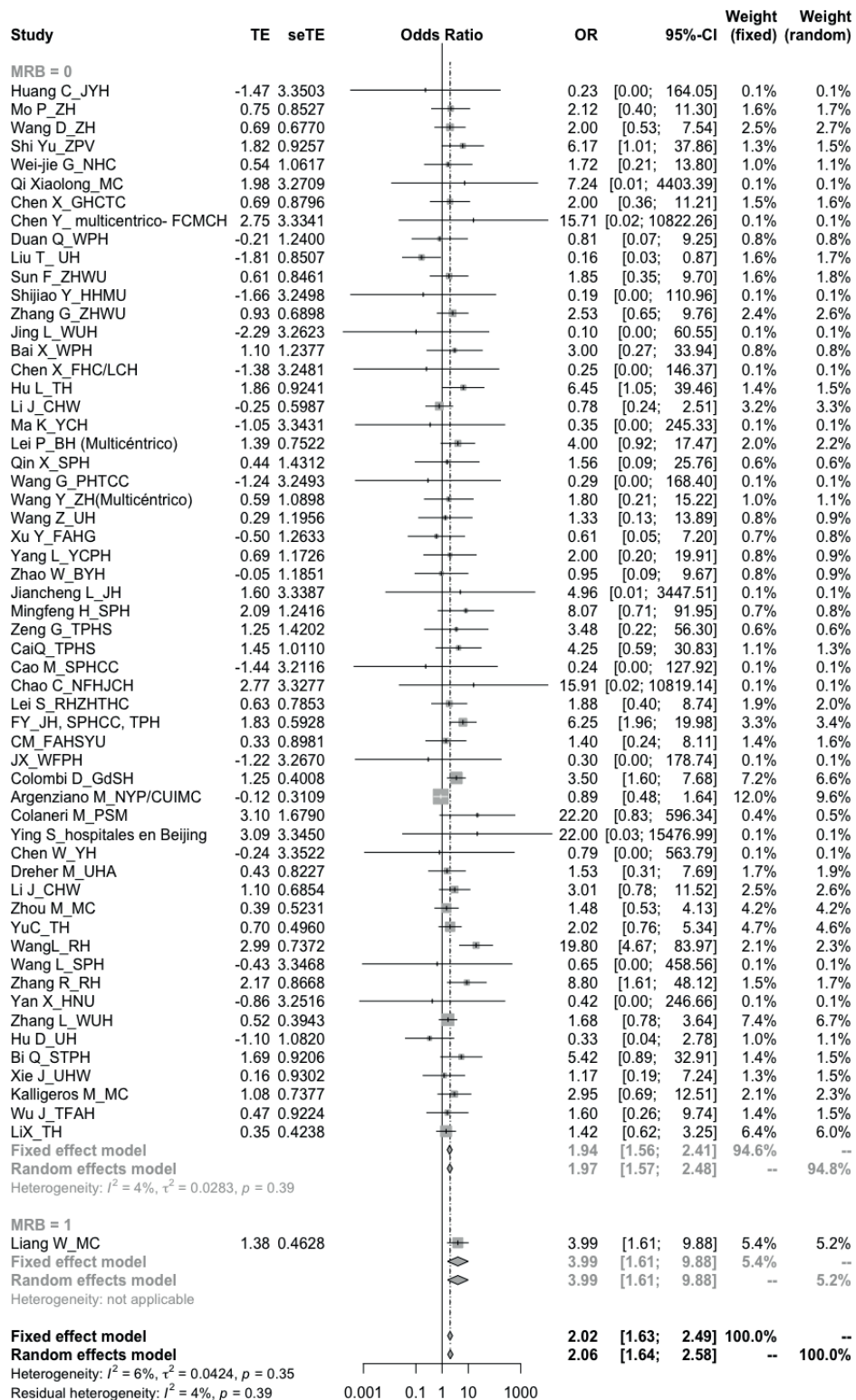
Candidate variable: COPD, outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



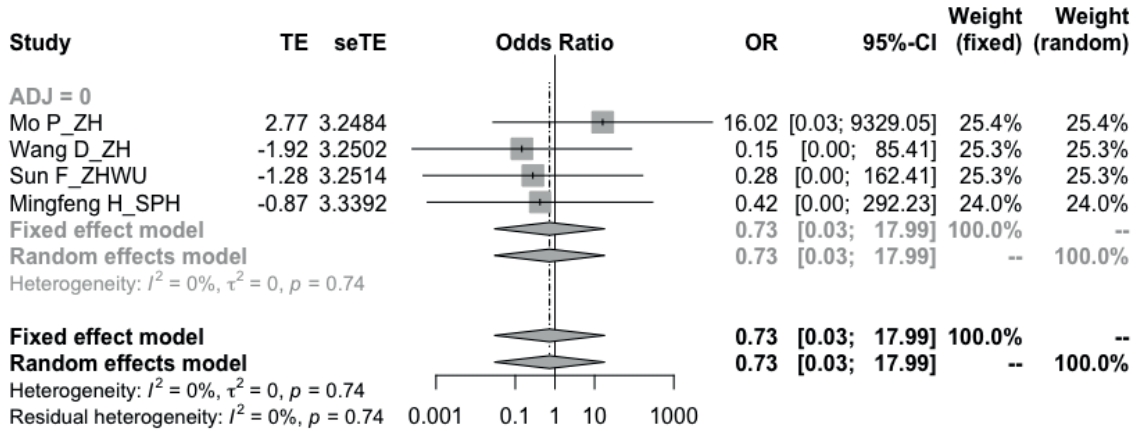
Candidate variable: Tuberculosis, outcome: severe Covid-19 disease



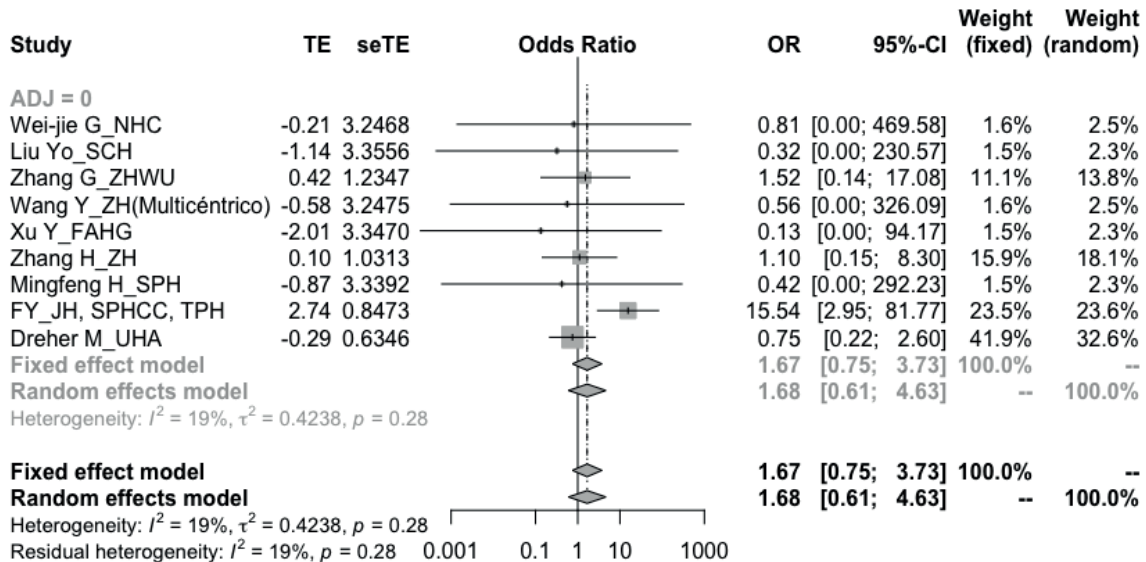
Candidate variable: Cancer (solid or active haematologic cancer), outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



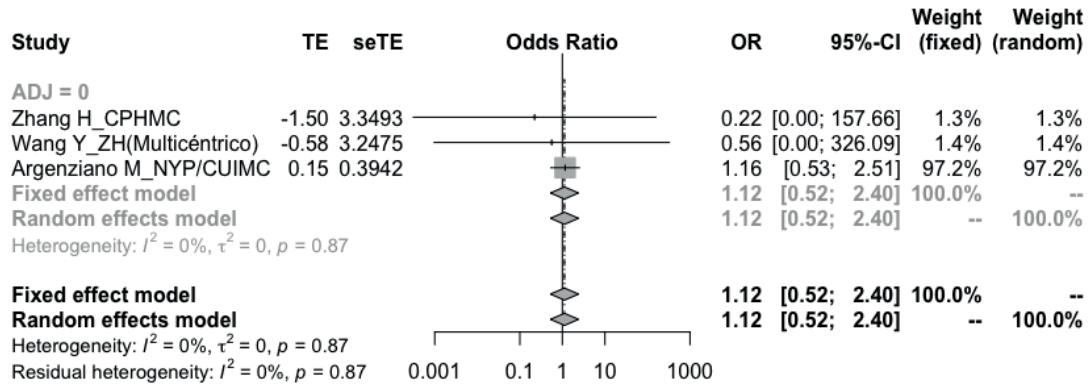
Candidate variable: HIV infection, outcome: severe Covid-19 disease



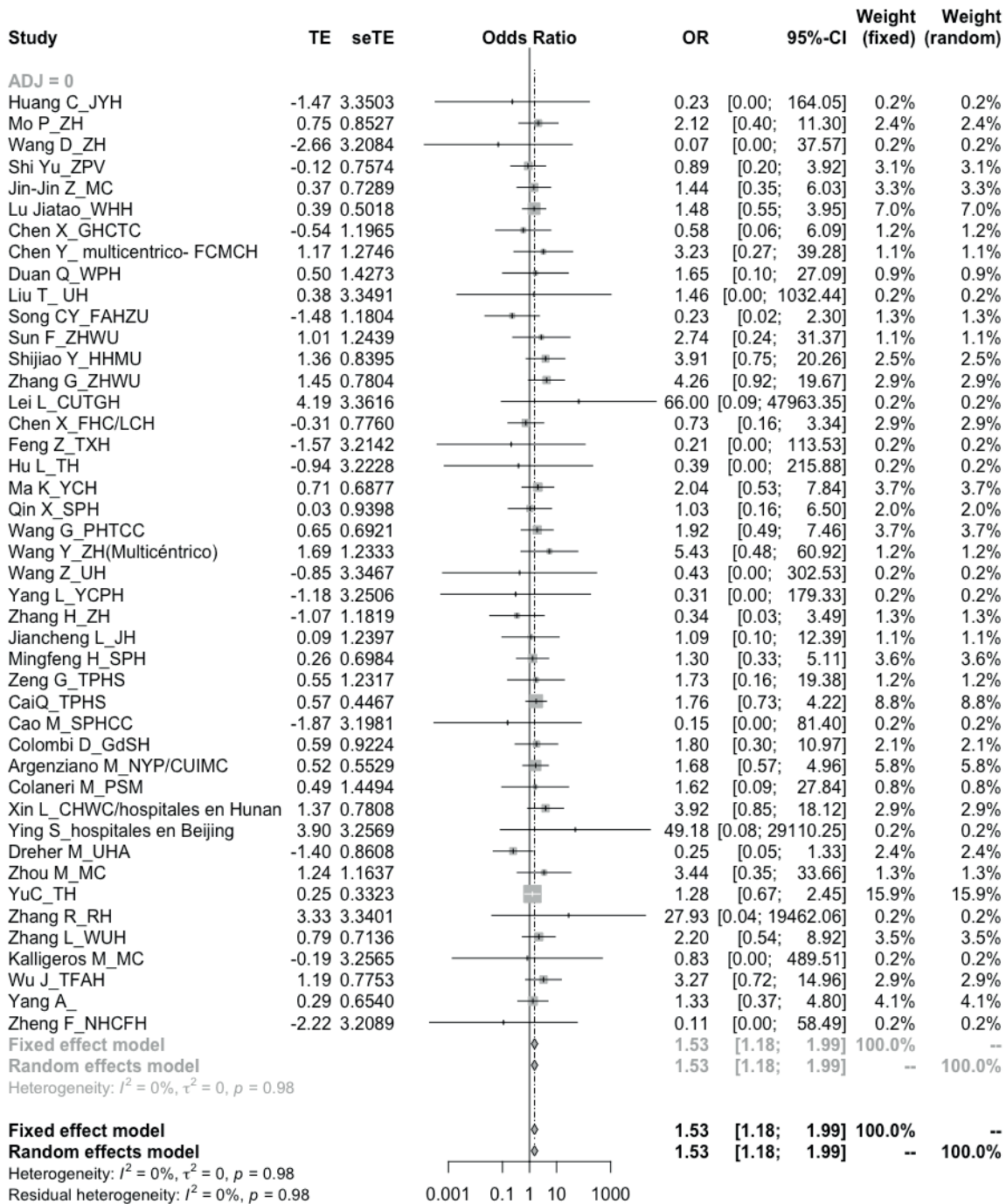
Candidate variable: Immunocompromised, outcome: severe Covid-19 disease



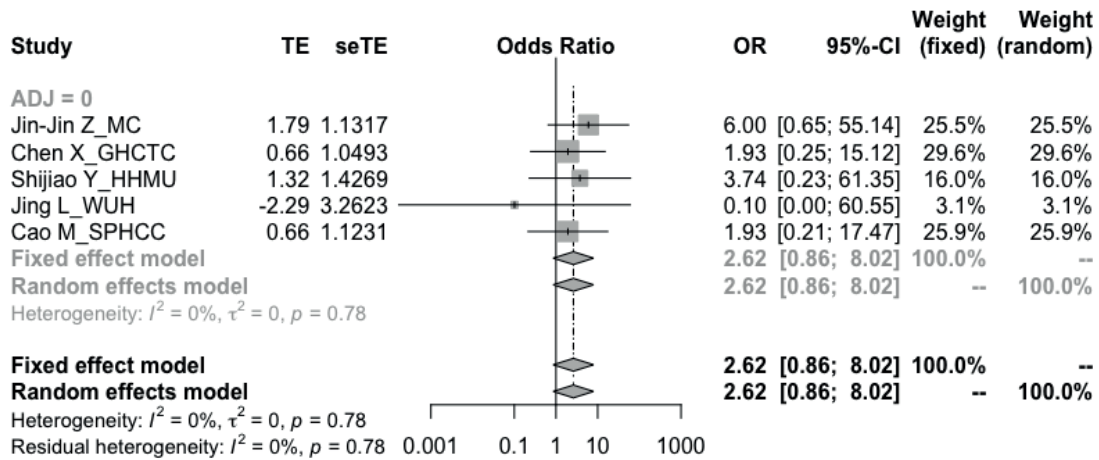
Candidate variable: Autoimmune disease, outcome: severe Covid-19 disease



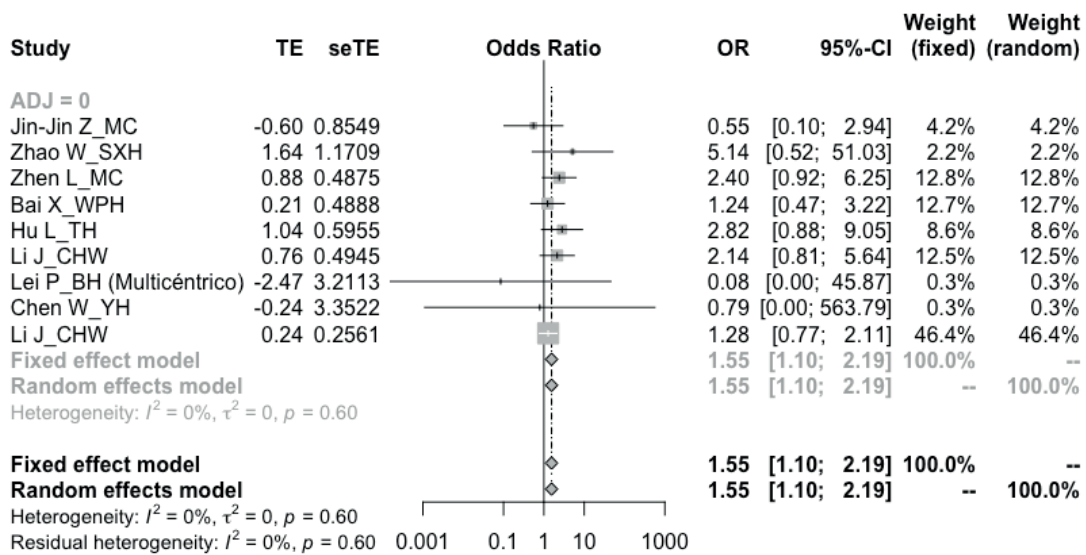
Candidate variable: Chronic liver disease, outcome: severe Covid-19 disease



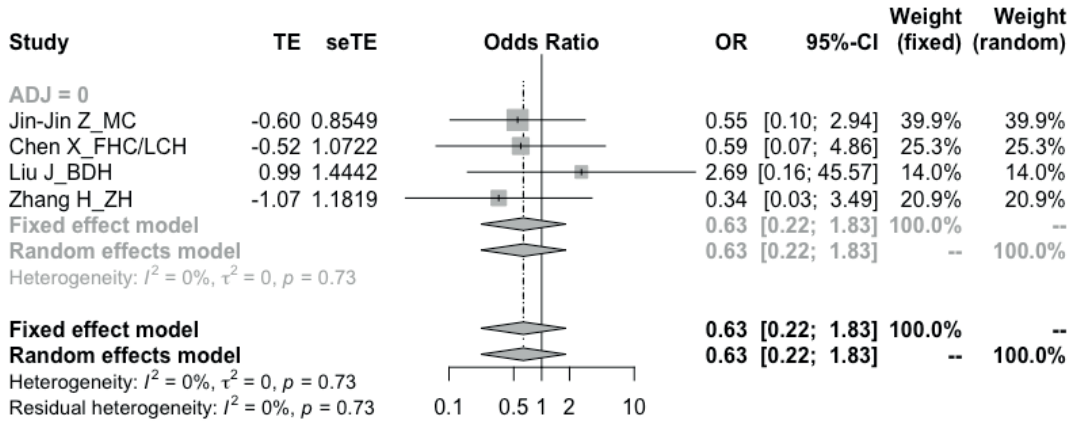
Candidate variable: Thyroid disease, outcome: severe Covid-19 disease



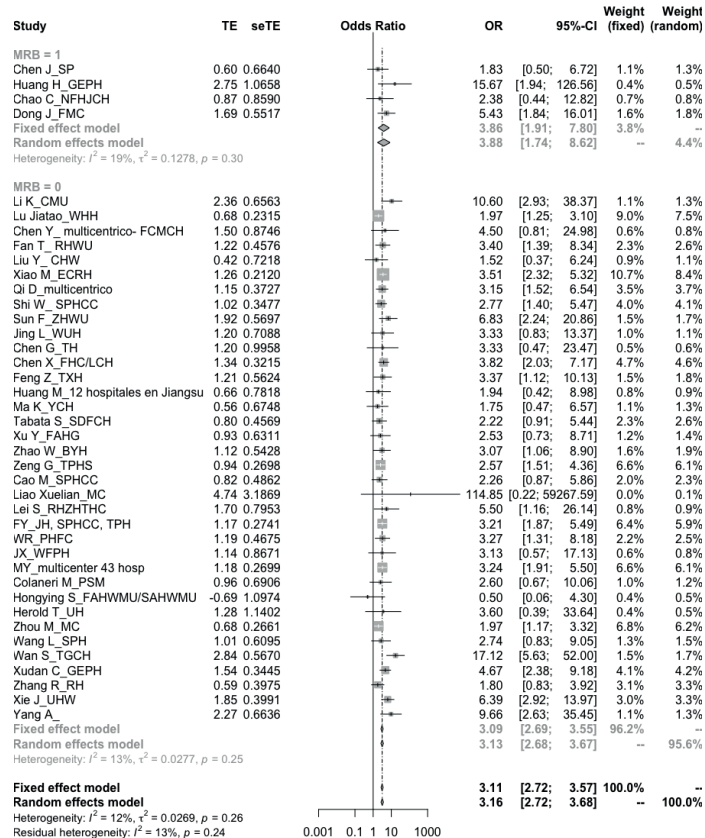
Candidate variable: Chronic gastric disease: History of peptic ulcer or gastritis, outcome: severe Covid-19 disease



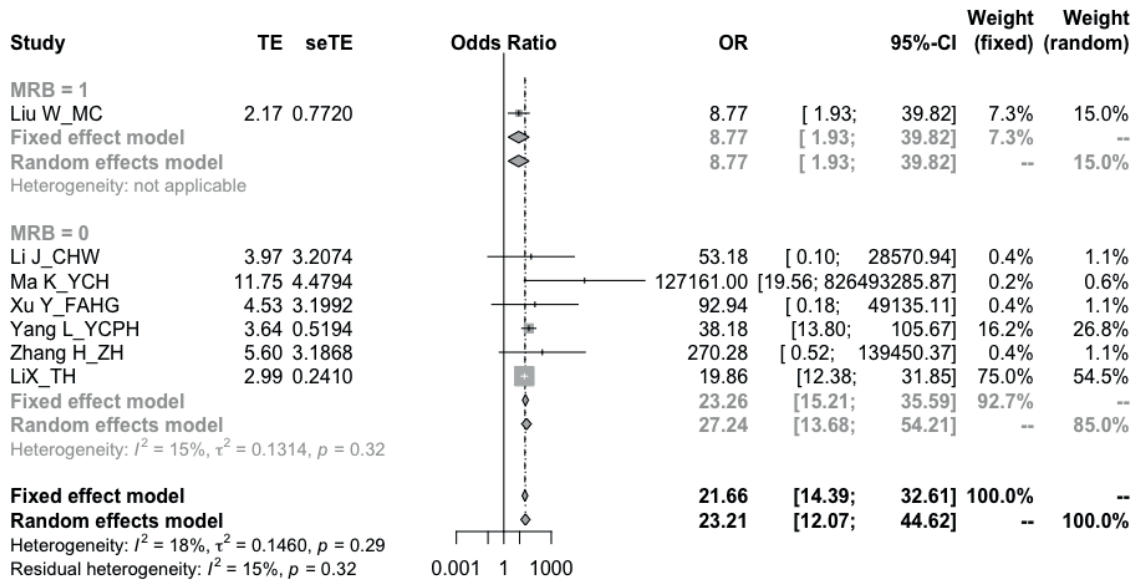
Candidate variable: Dyslipidemia, outcome: severe Covid-19 disease



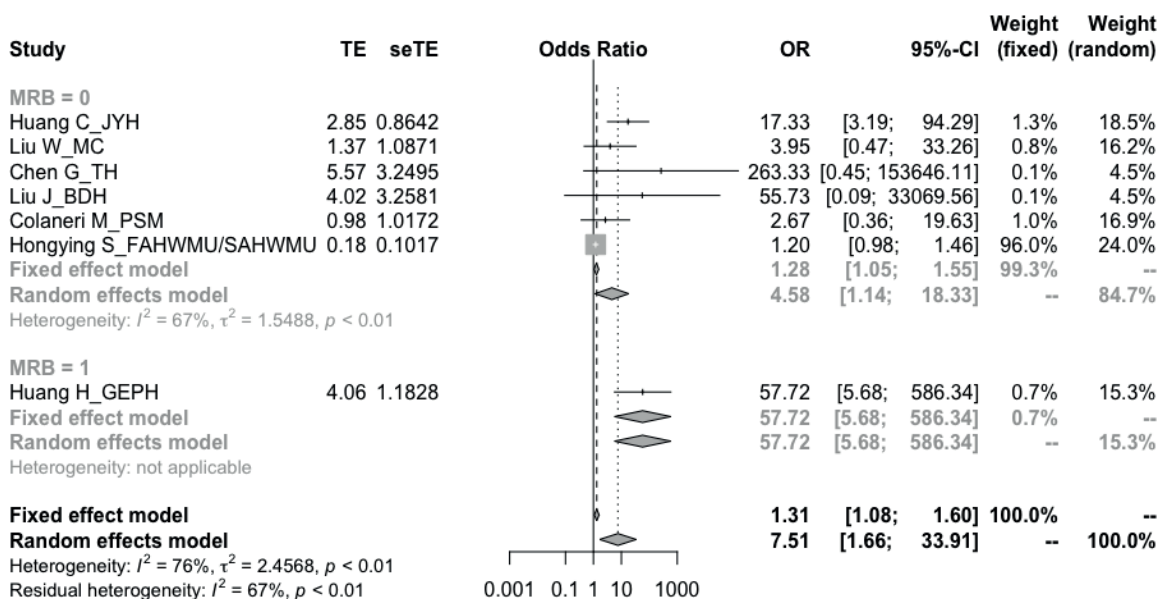
Candidate variable: Any chronic condition or comorbidities, outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



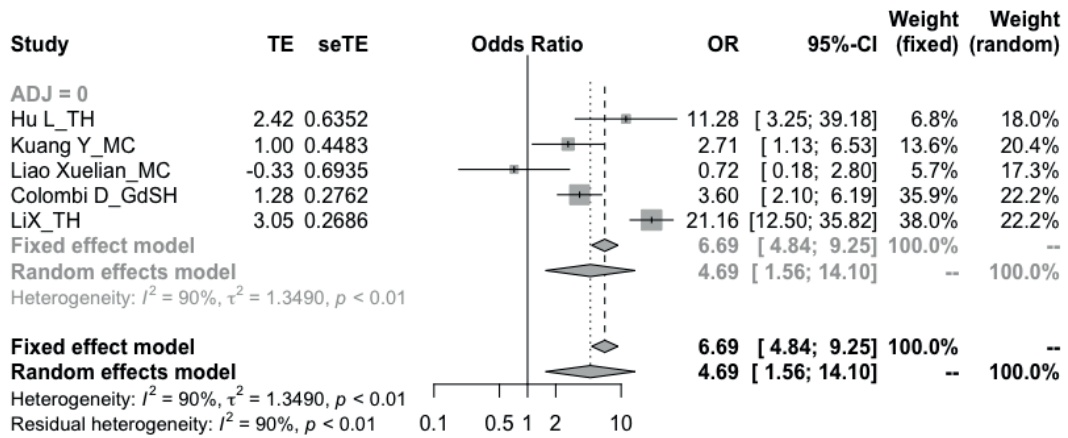
Candidate variable: Respiratory failure, outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



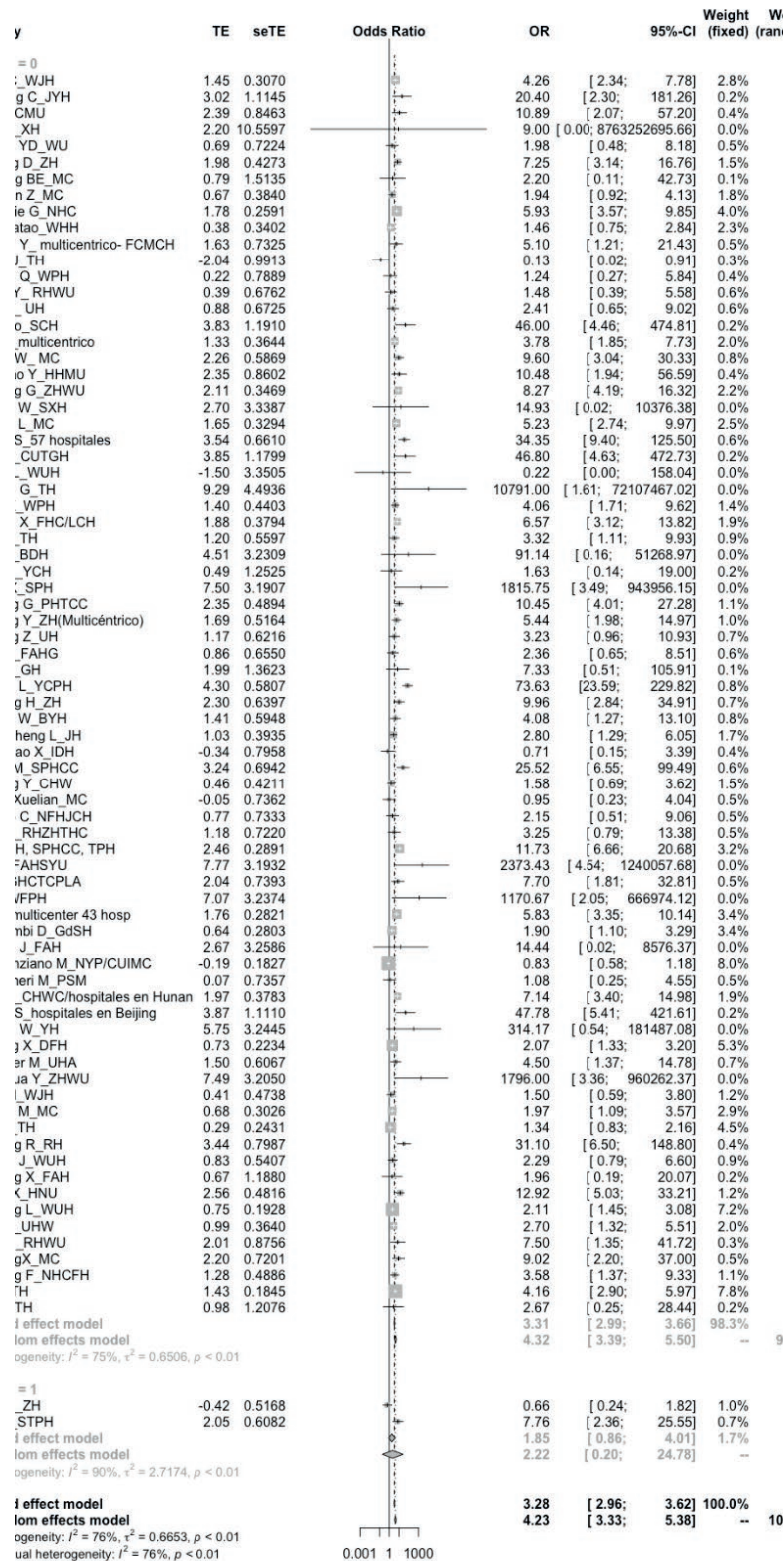
Candidate variable: Tachypnea, outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



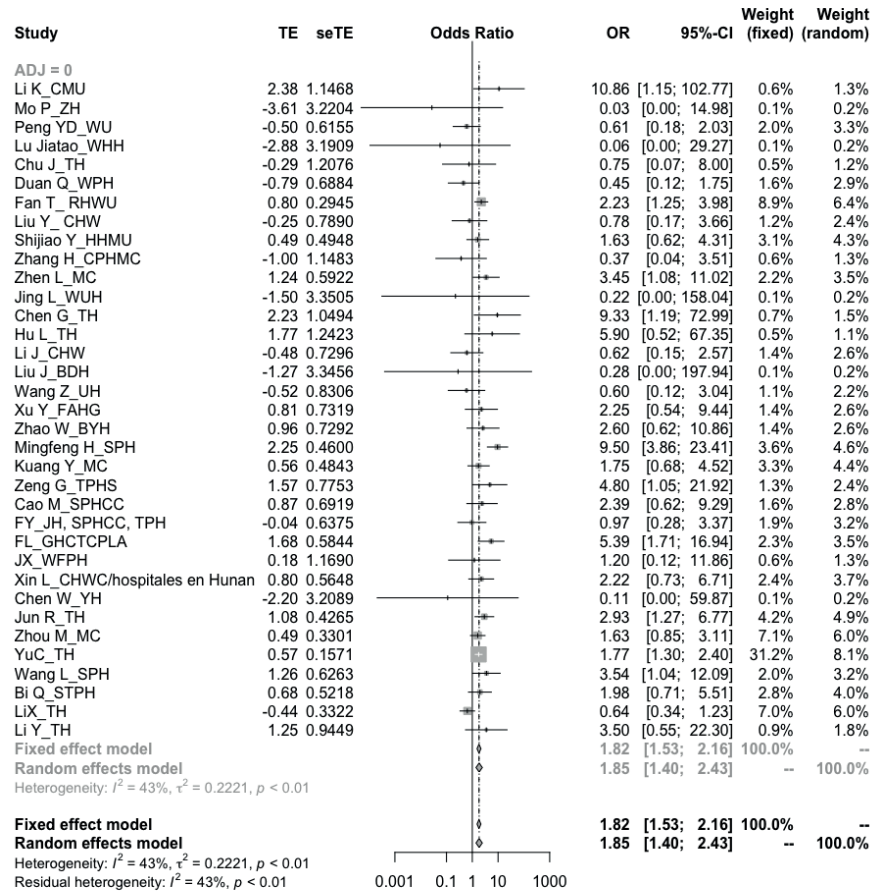
Candidate variable: Hypoxemia, outcome: severe Covid-19 disease



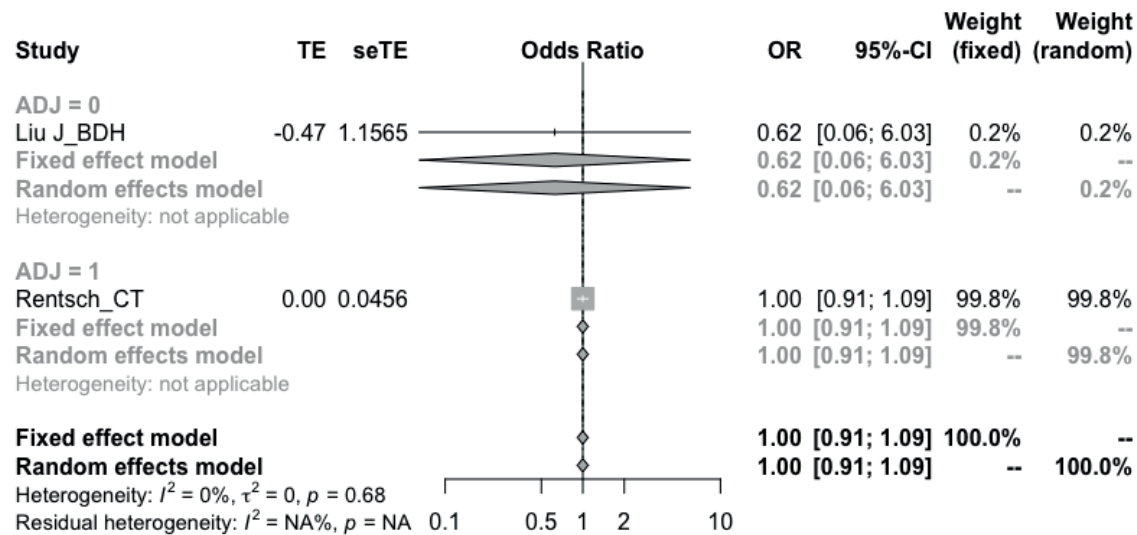
Candidate variable: Dyspnea, outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



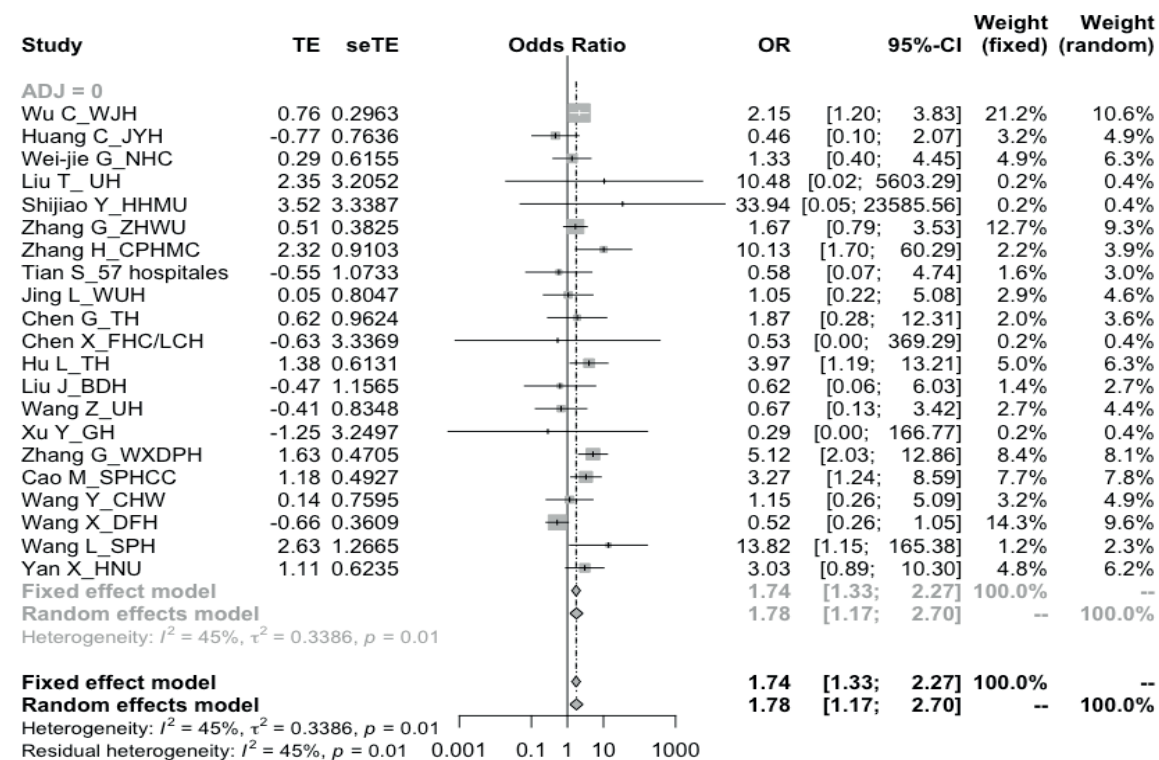
Candidate variable: Chest pain, outcome: severe Covid-19 disease



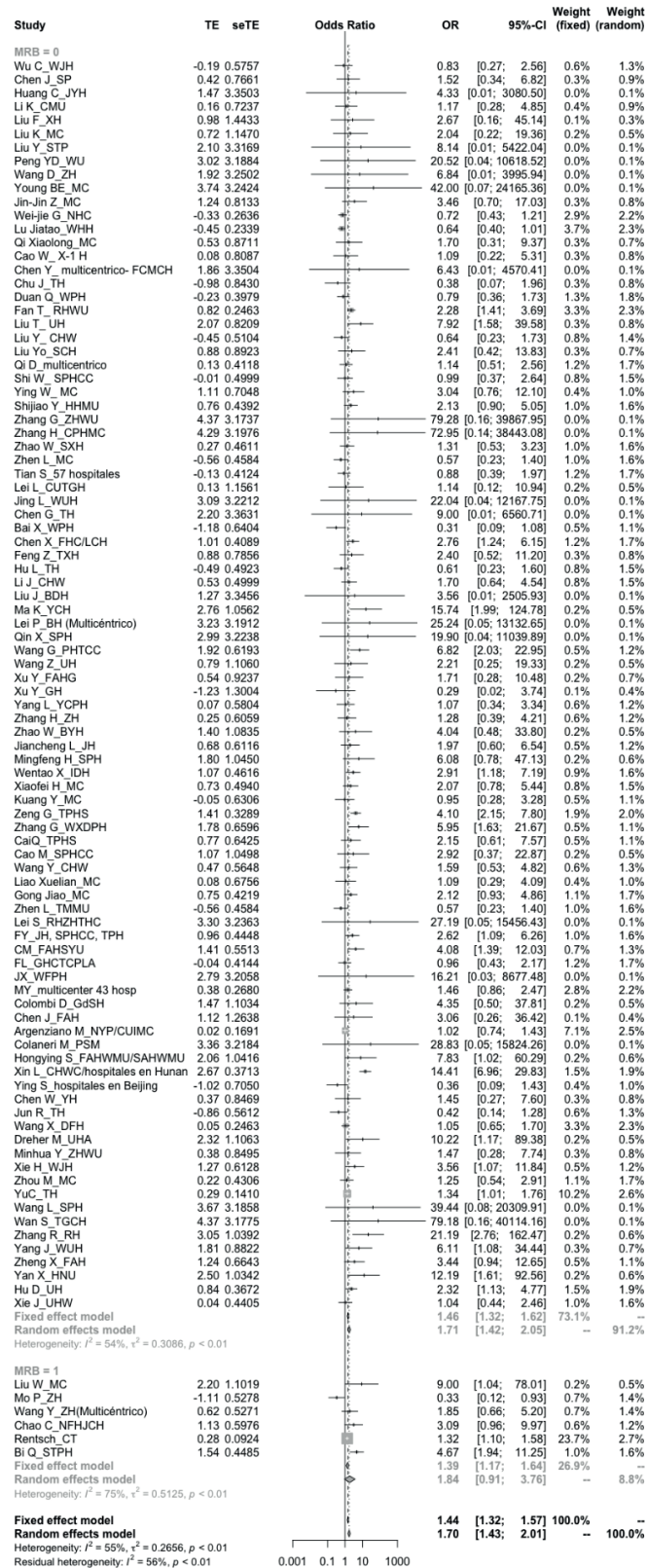
Candidate variable: Low blood pressure, outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



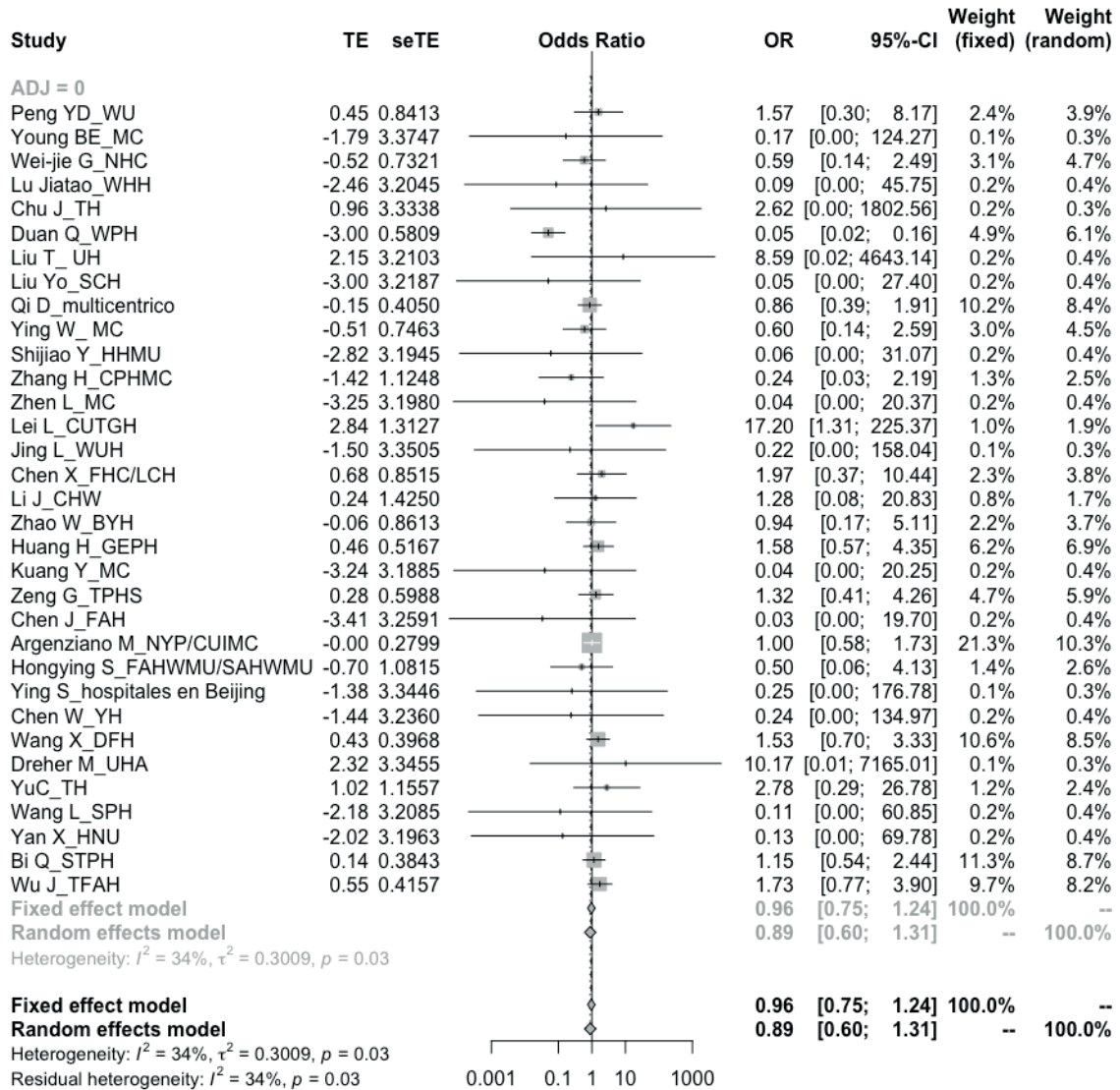
Candidate variable: High fever (more than 39°C), outcome: severe Covid-19 disease



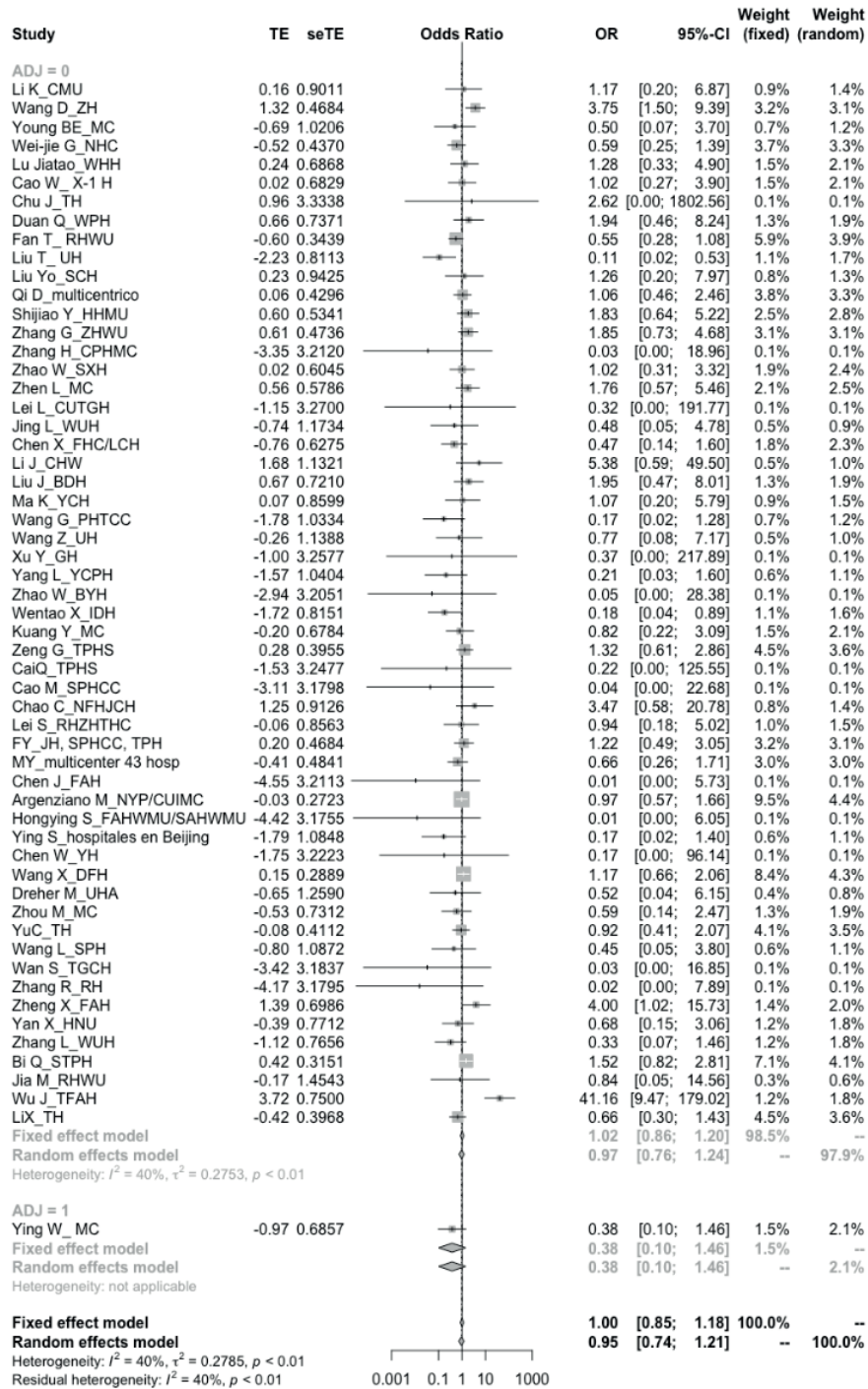
Candidate variable: Fever, outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



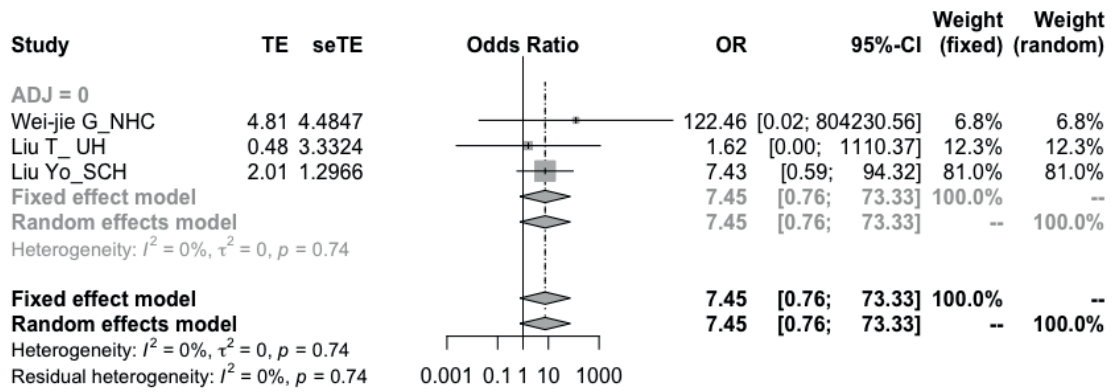
Candidate variable: Rhinorrhea, outcome: severe Covid-19 disease



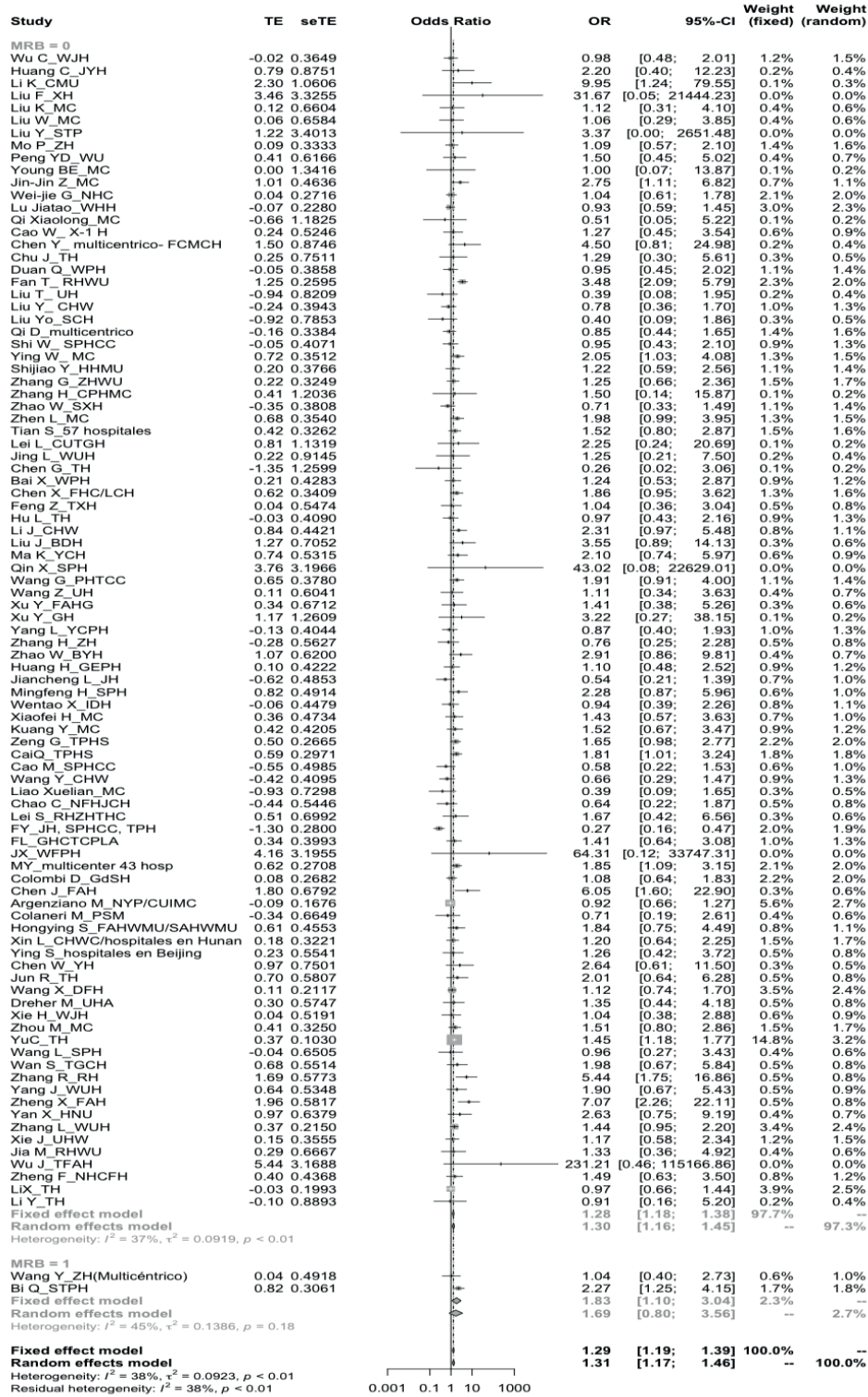
Candidate variable: Odynophagia, outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



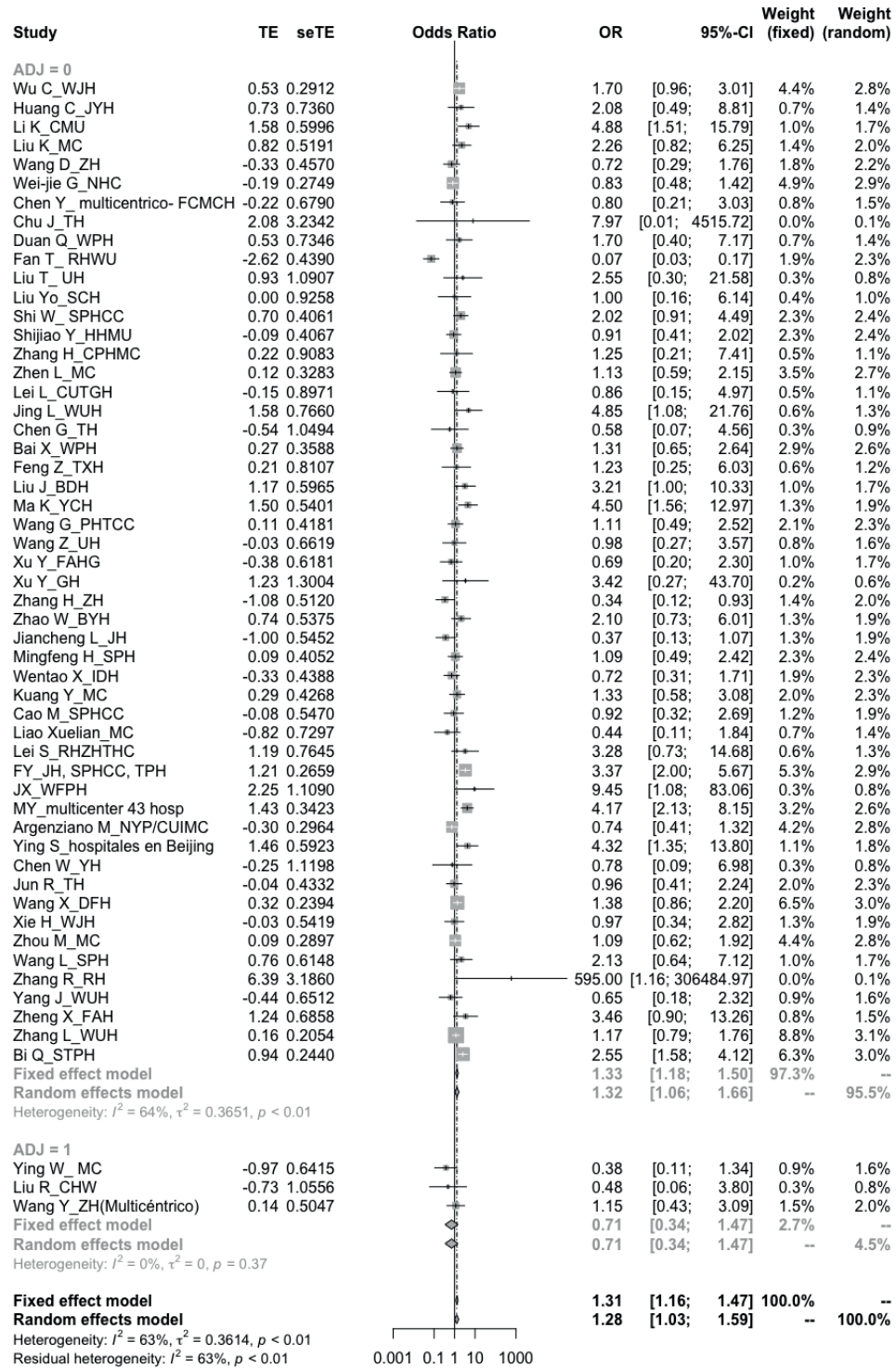
Candidate variable: Conjunctivitis, outcome: severe Covid-19 disease



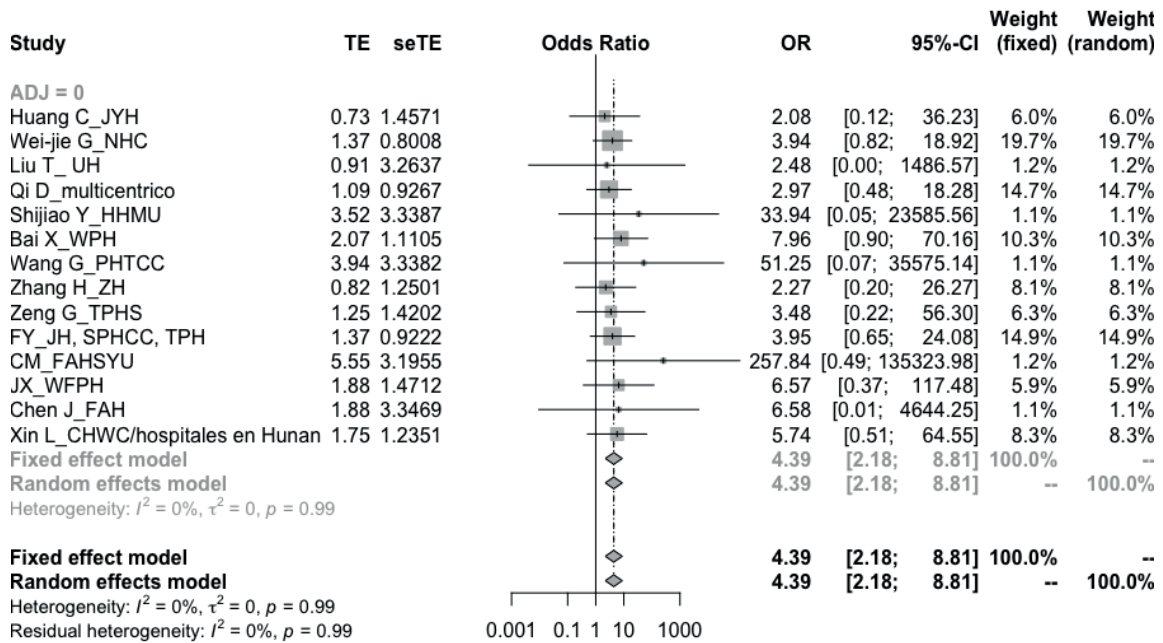
Candidate variable: Cough, outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



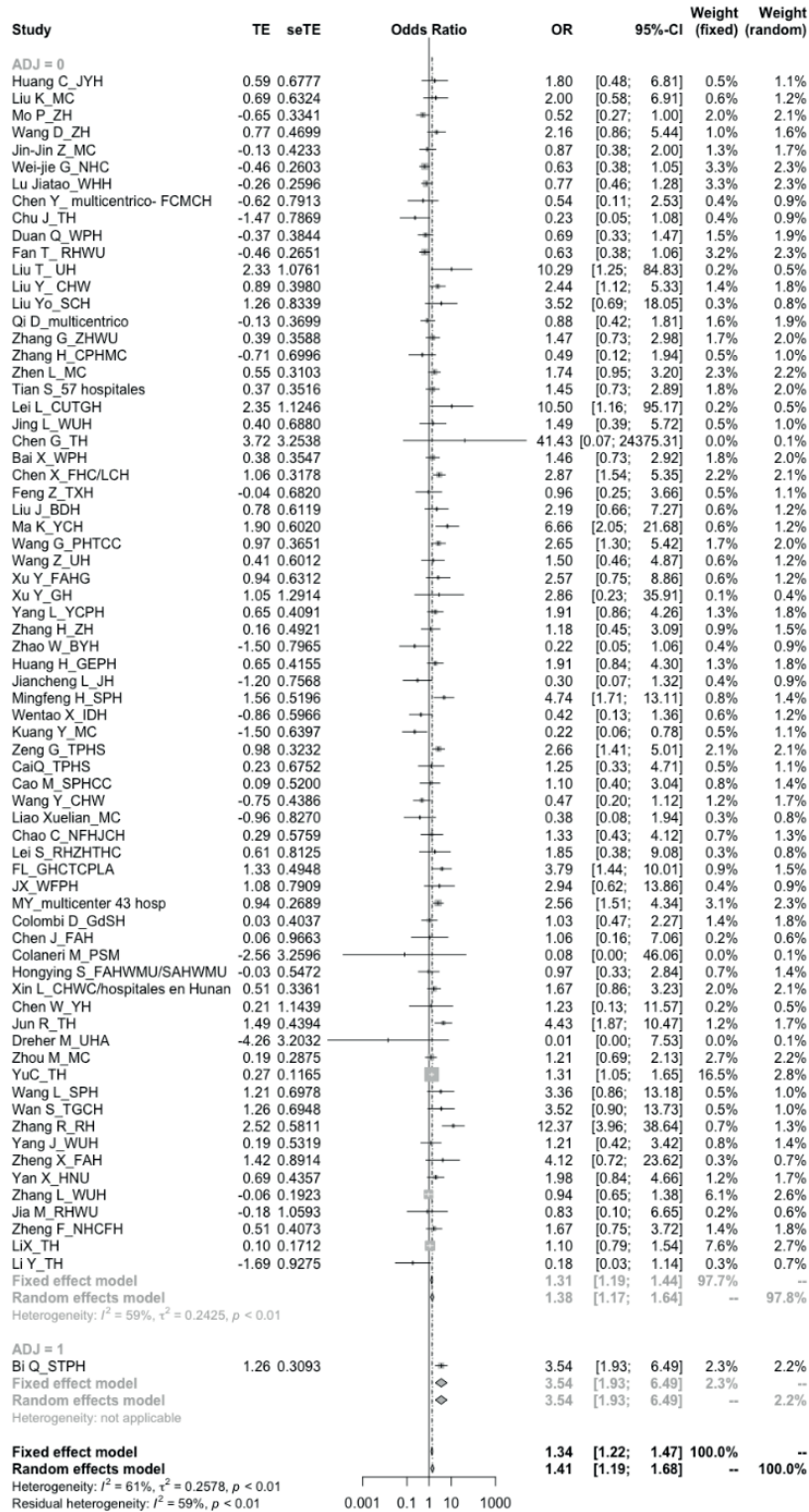
Candidate variable: Productive Cough, outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



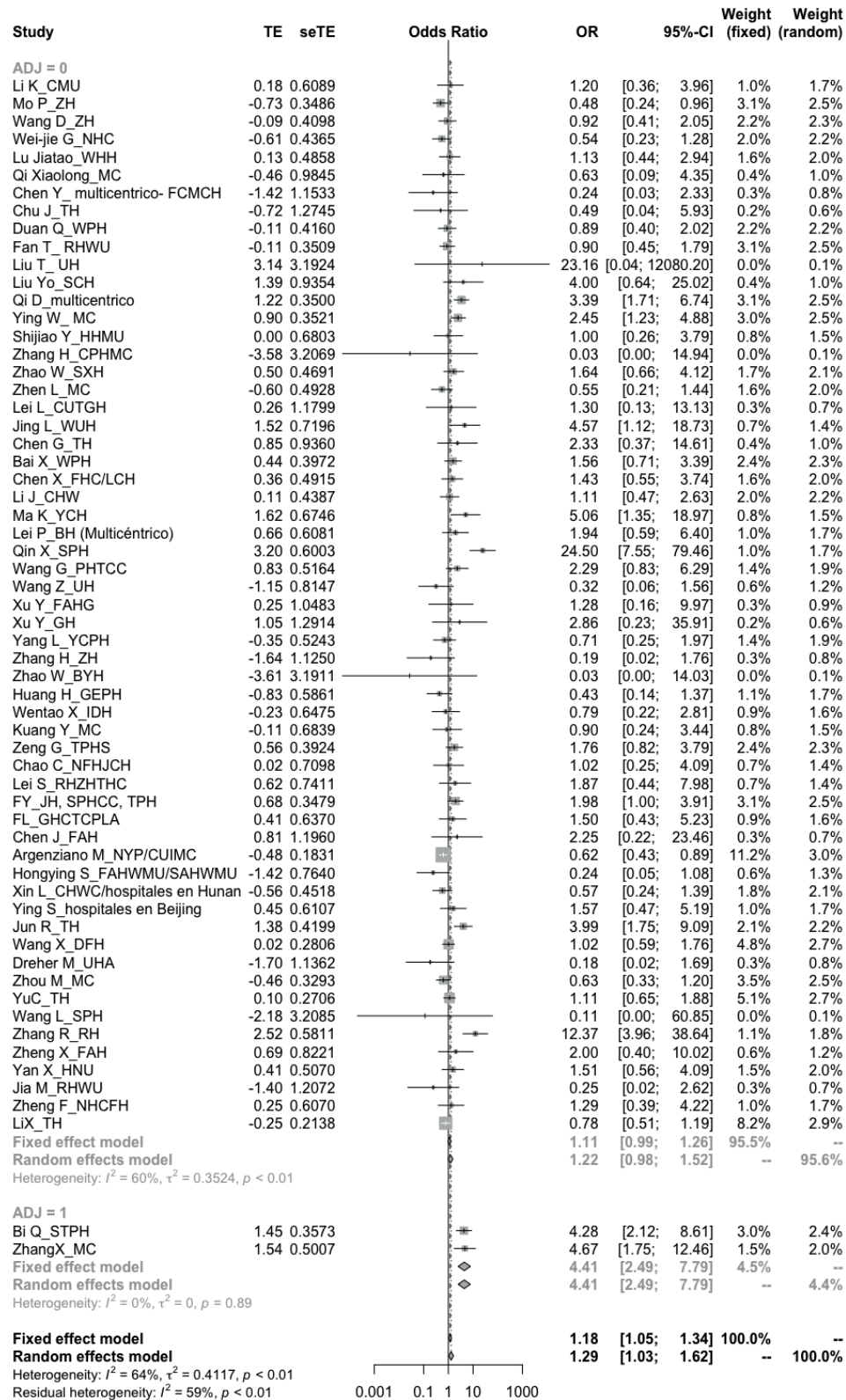
Candidate variable: Hemoptysis, outcome: severe Covid-19 disease



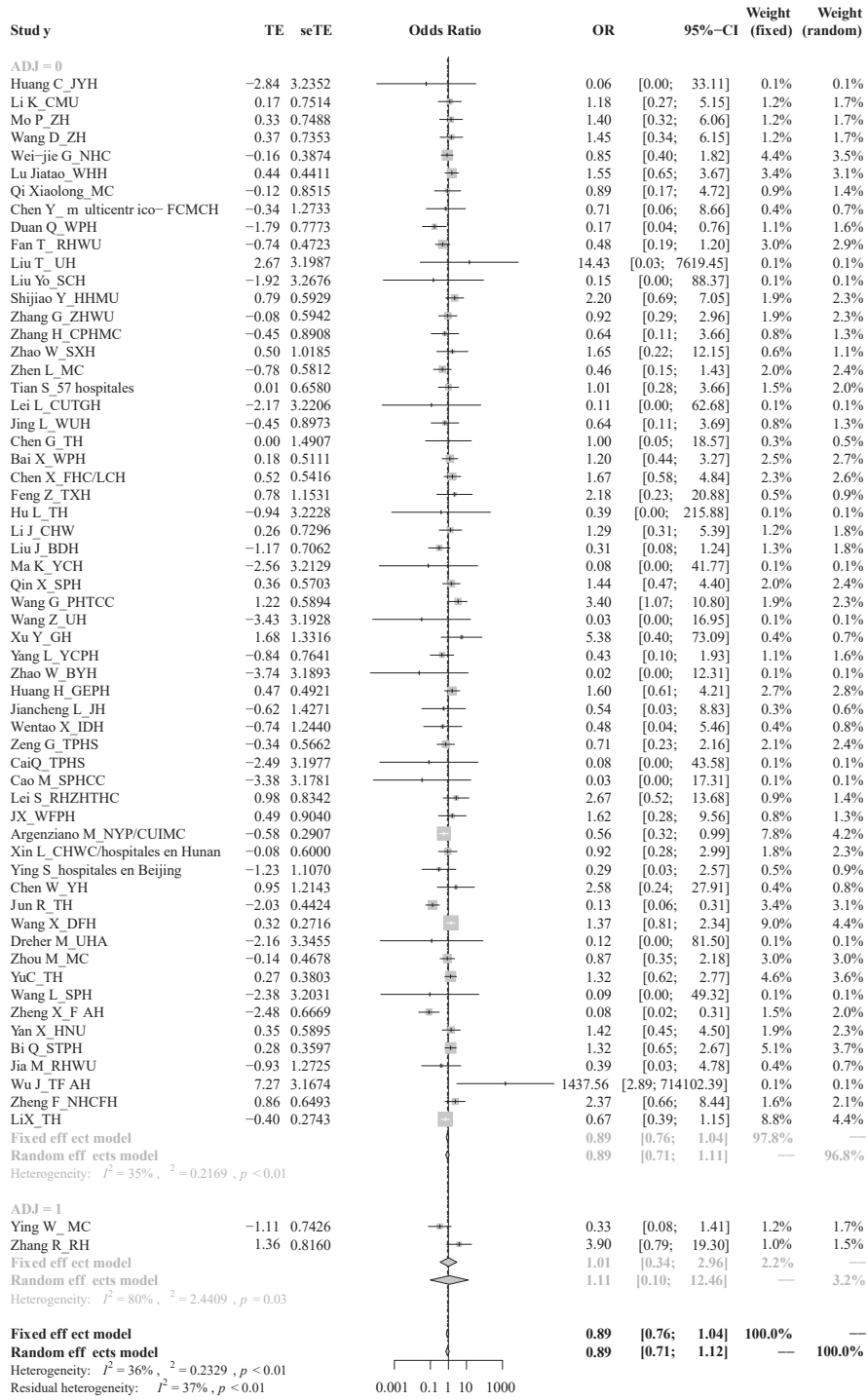
Candidate variable: Fatigue, outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



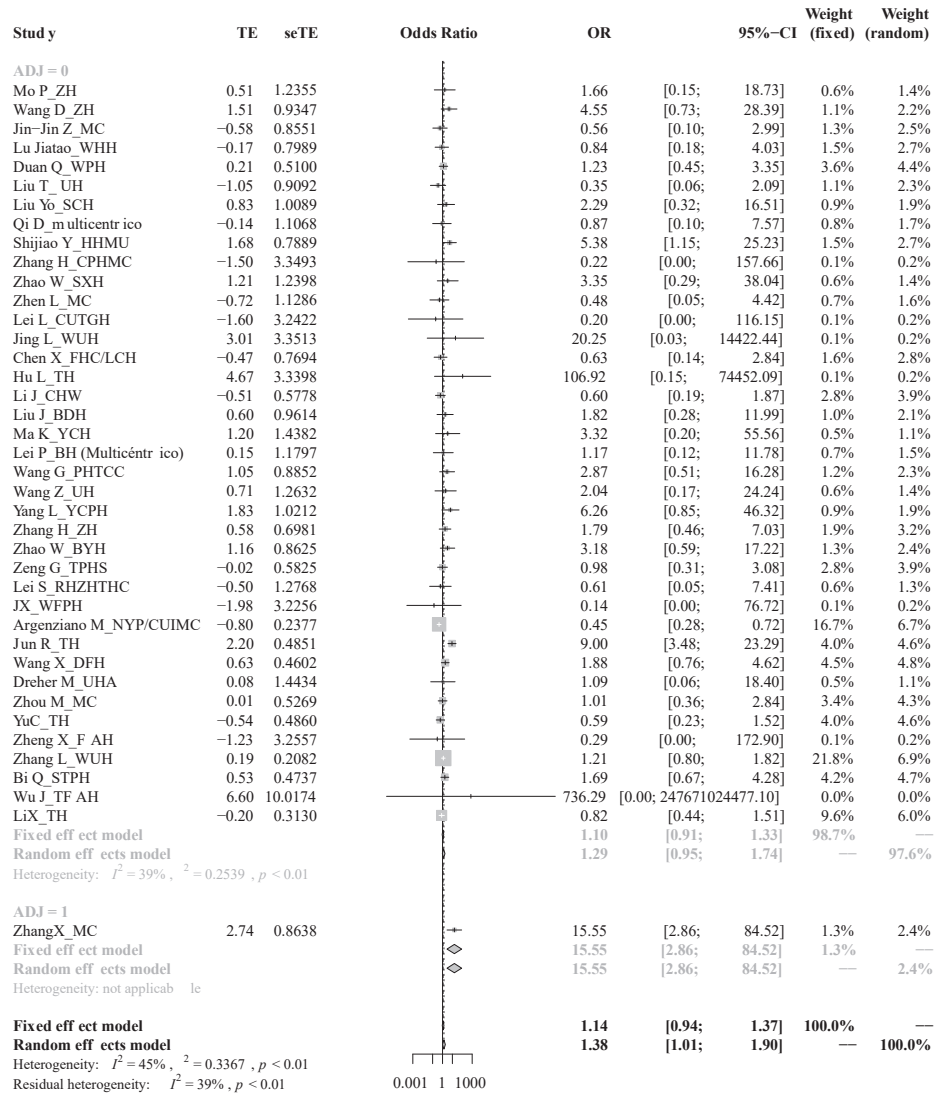
Candidate variable: Myalgia/arthralgia, outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



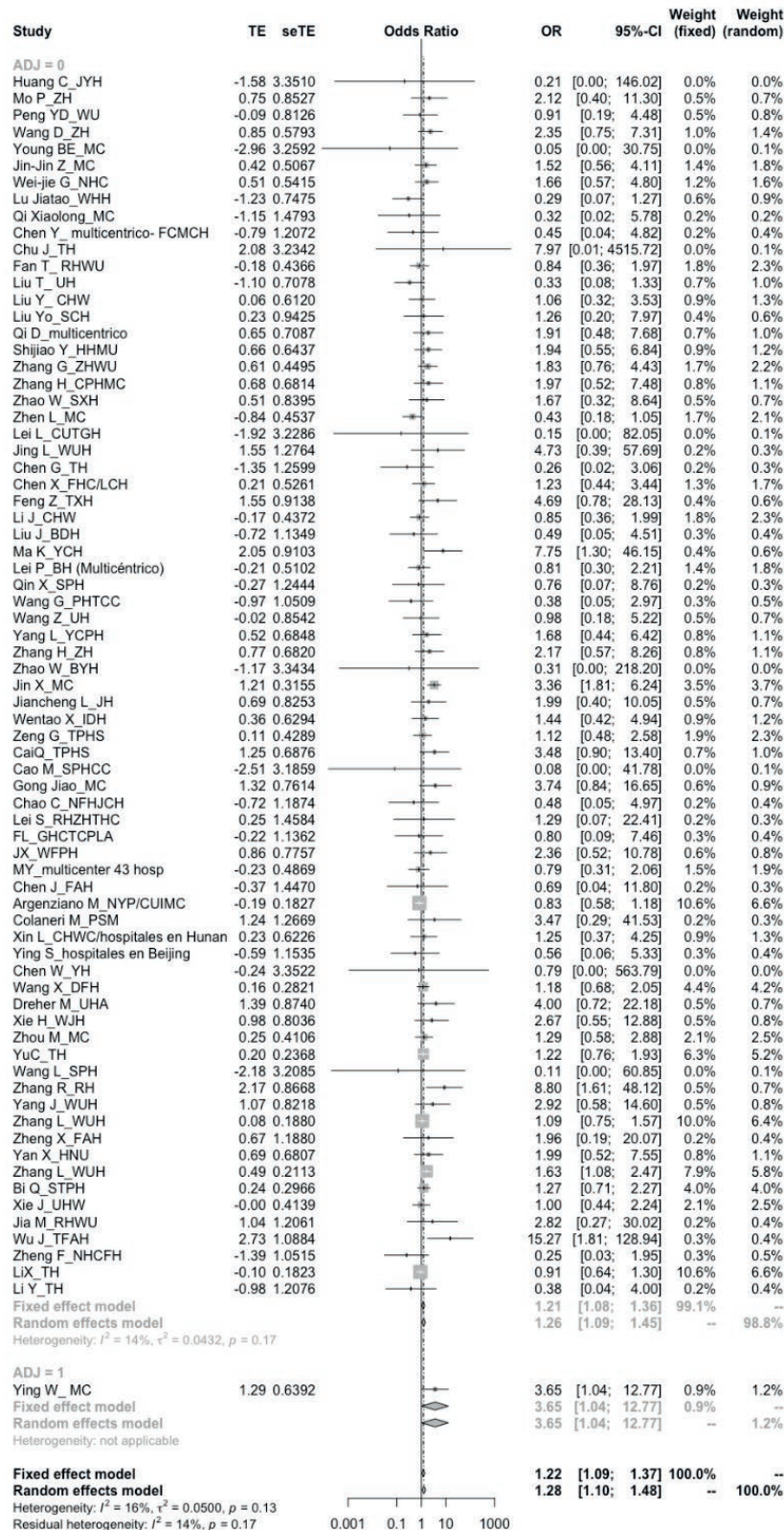
Candidate variable: Headache, outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



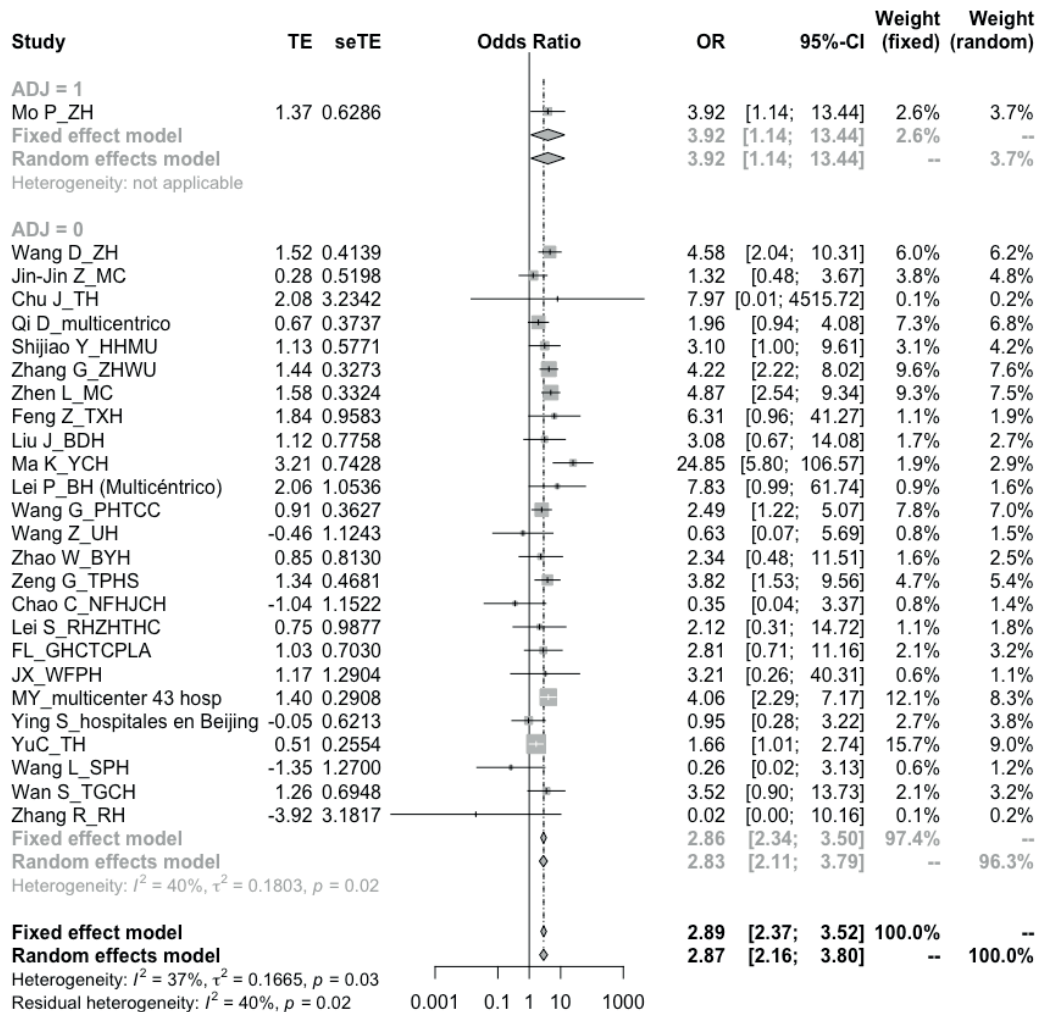
Candidate variable: Vomits, outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



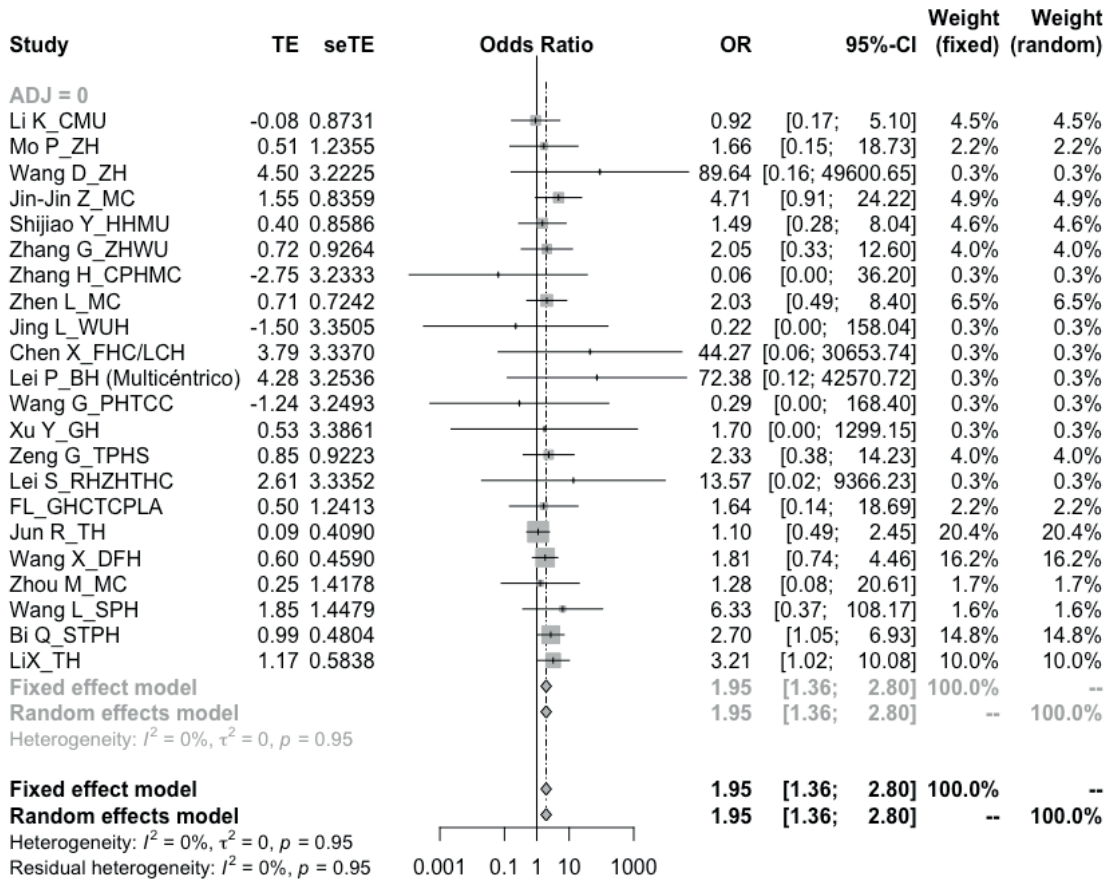
Candidate variable: Diarrhea, outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



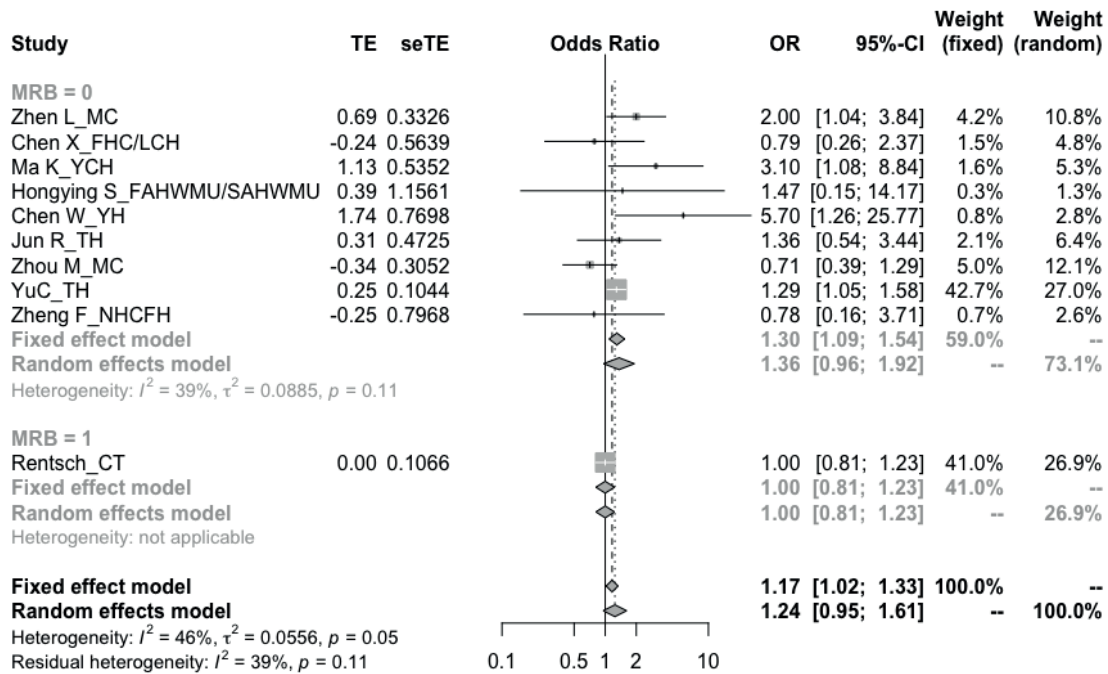
Candidate variable: Anorexia, outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



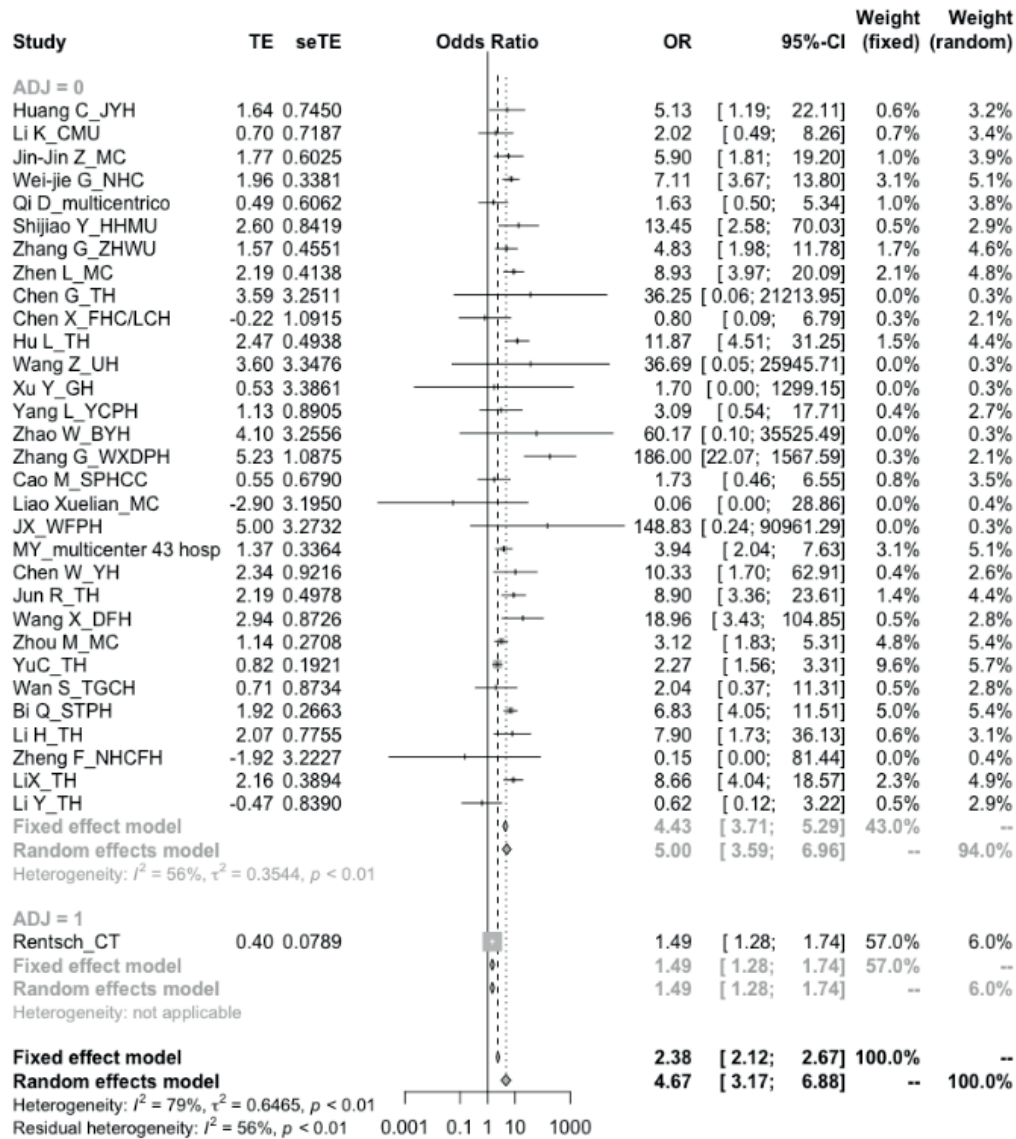
Candidate variable: Abdominal pain, outcome: severe Covid-19 disease



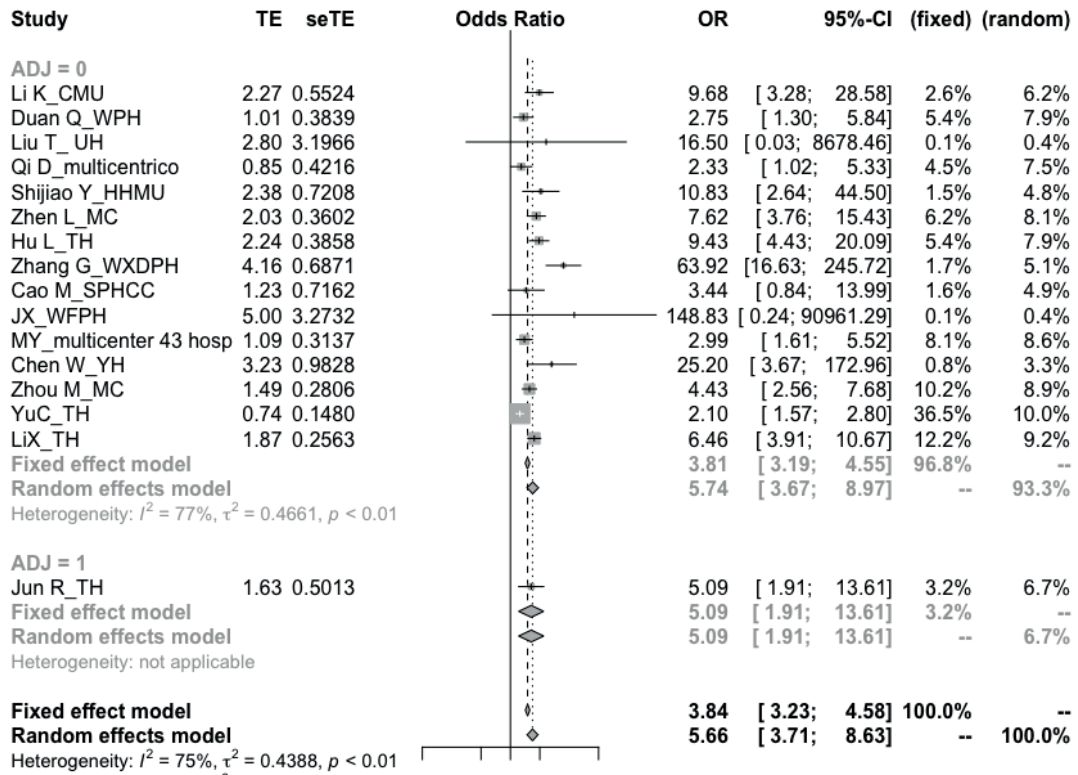
Candidate variable: Anemia, outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



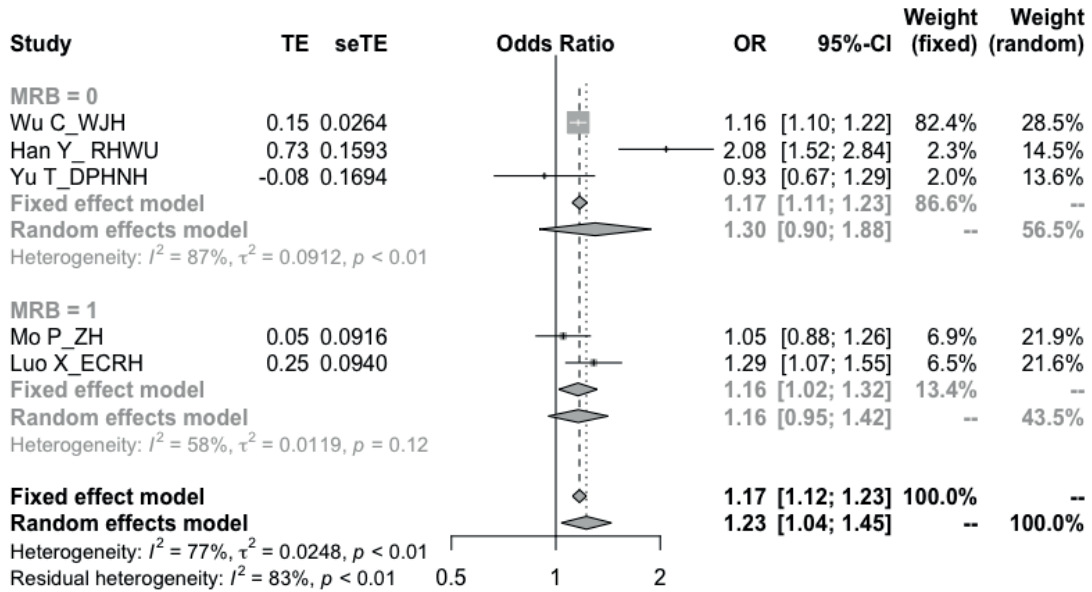
Candidate variable: High WBC (greater than $10.0 \times 10^9/L$), outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



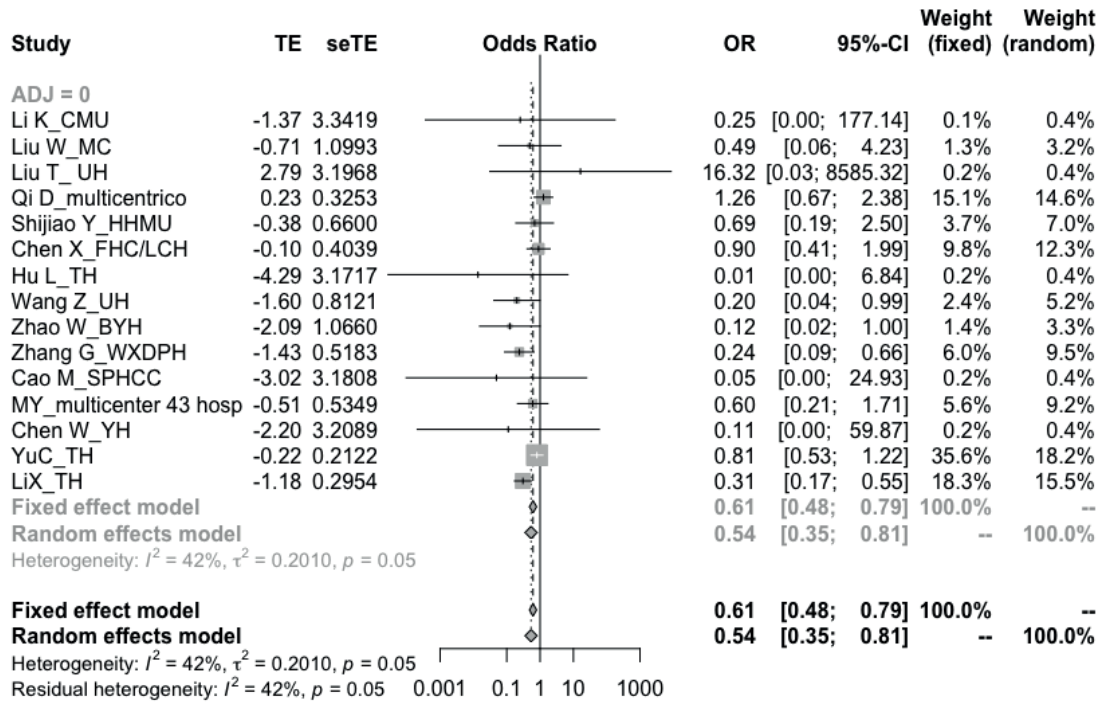
Candidate variable: High Neutrophil count (greater than $6.3 \times 10^9/L$),
 outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



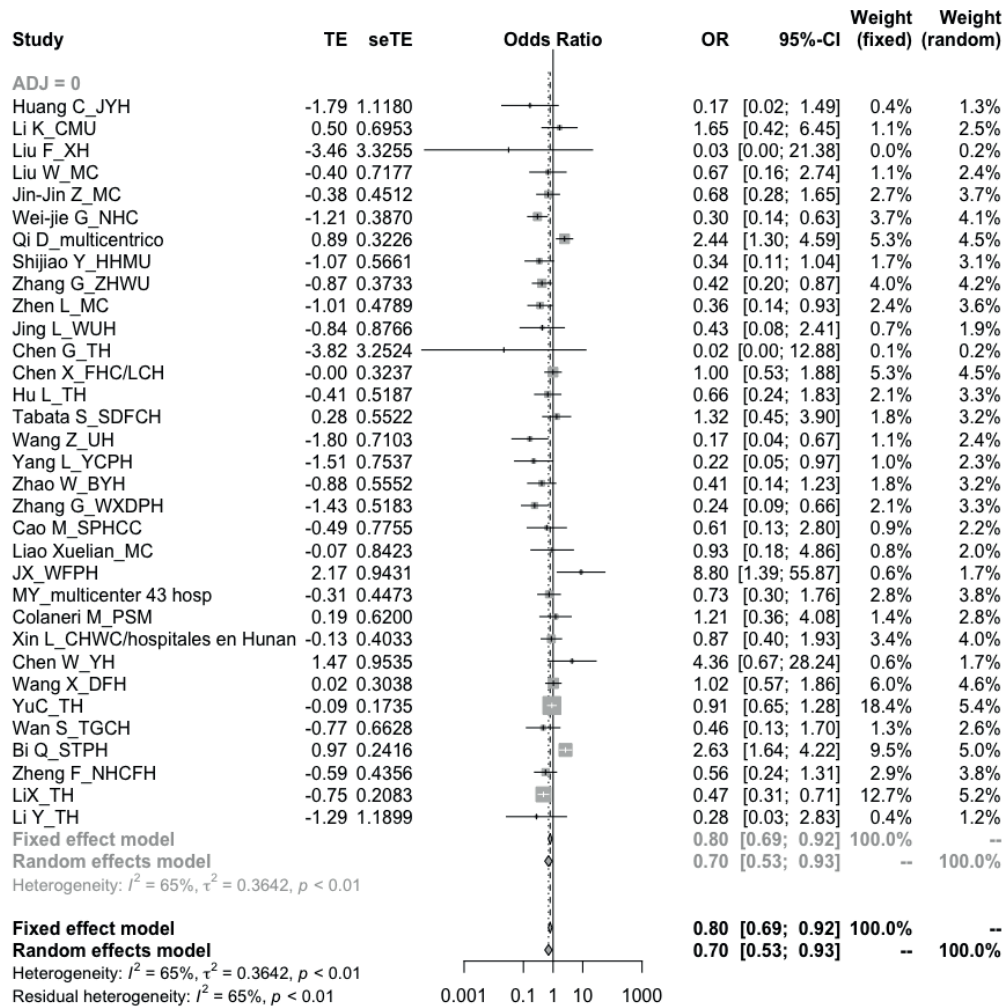
Candidate variable: Neutrophil count increase (per 1×10^9 U/L), outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



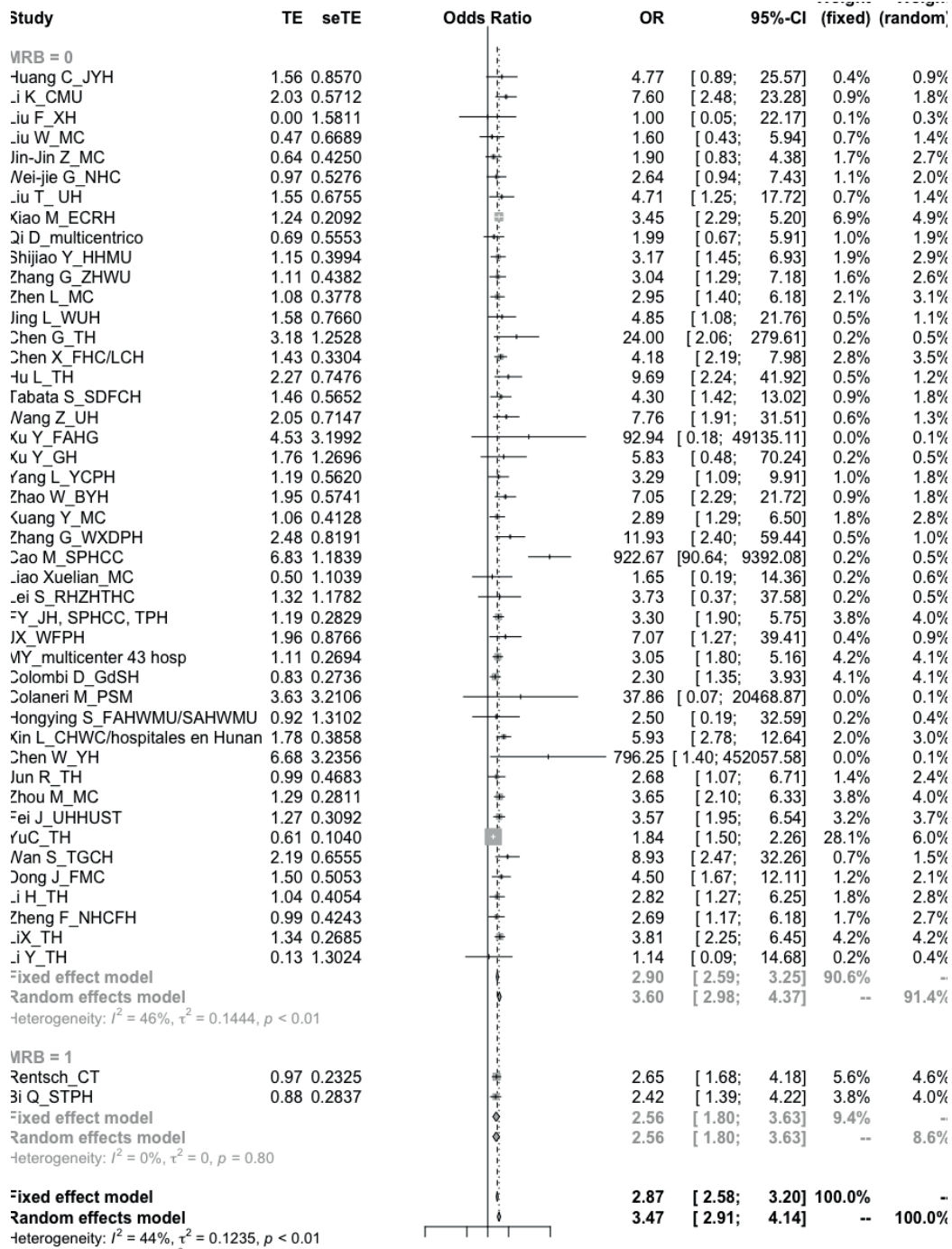
Candidate variable: Low neutrophil count (Less than $1.8 \times 10^9/L$), outcome: severe Covid-19 disease



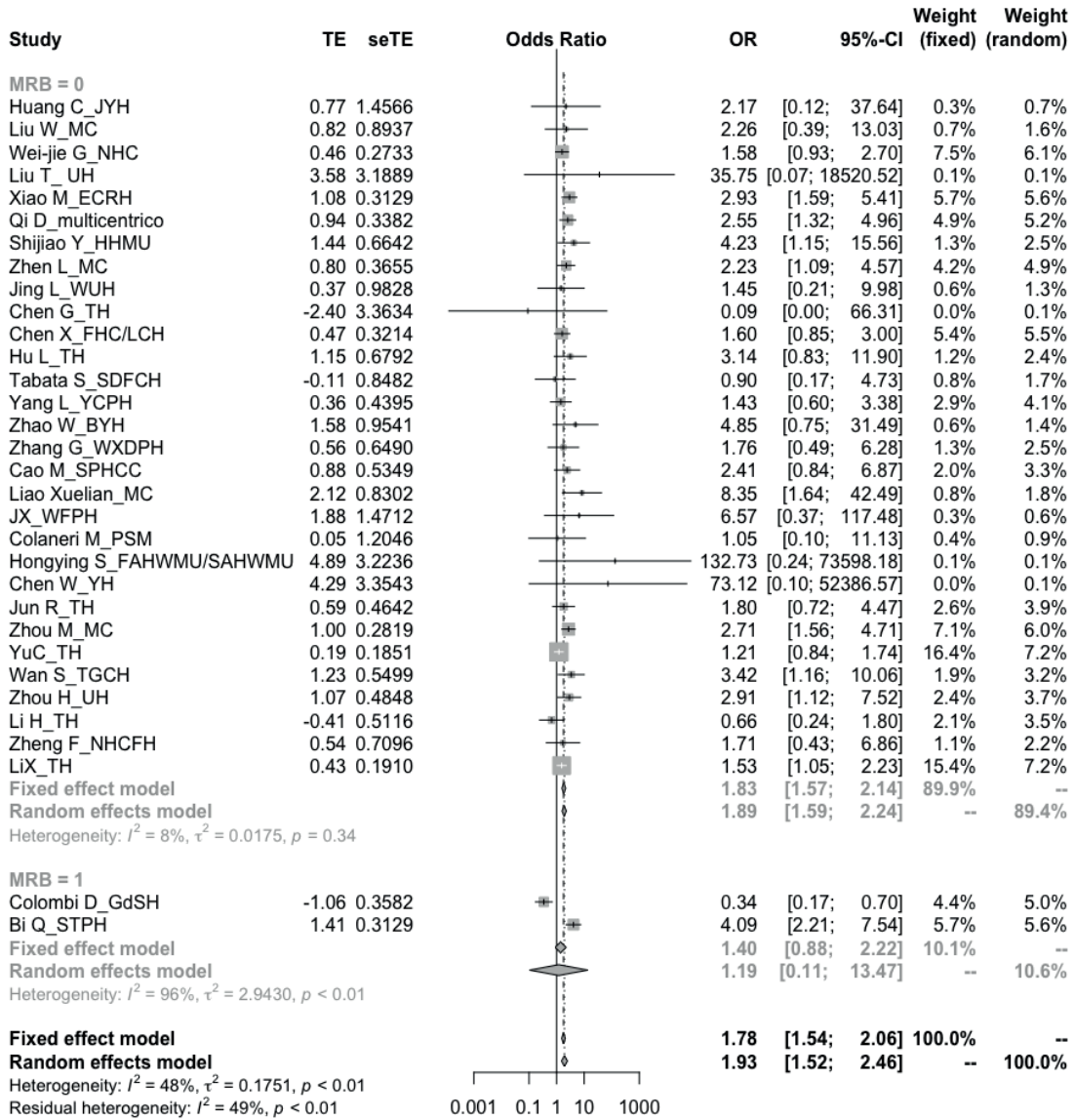
Candidate variable: Leukopenia (Less than $3.5-4 \times 10^9/L$), outcome: severe Covid-19 disease



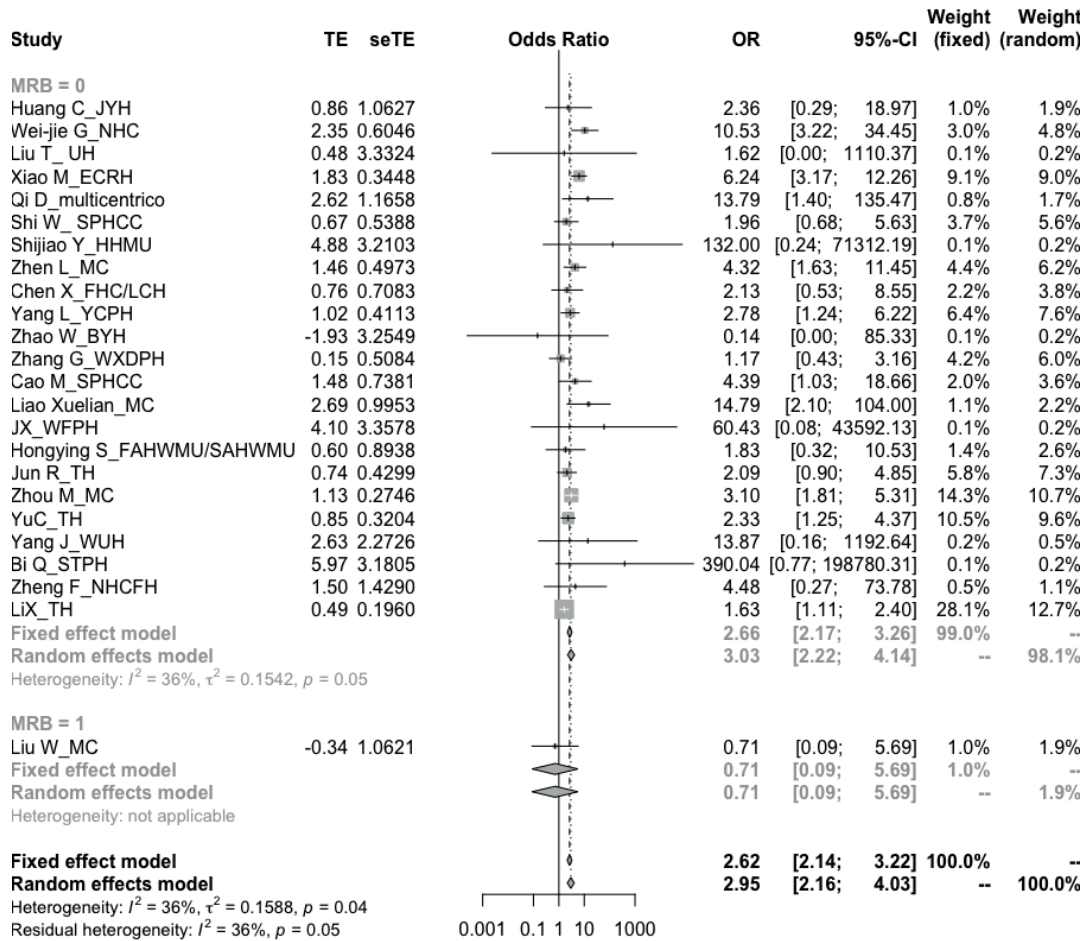
Candidate variable: Low Lymphocyte count (less than 0.8-1.5x 10⁹/L),
 outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



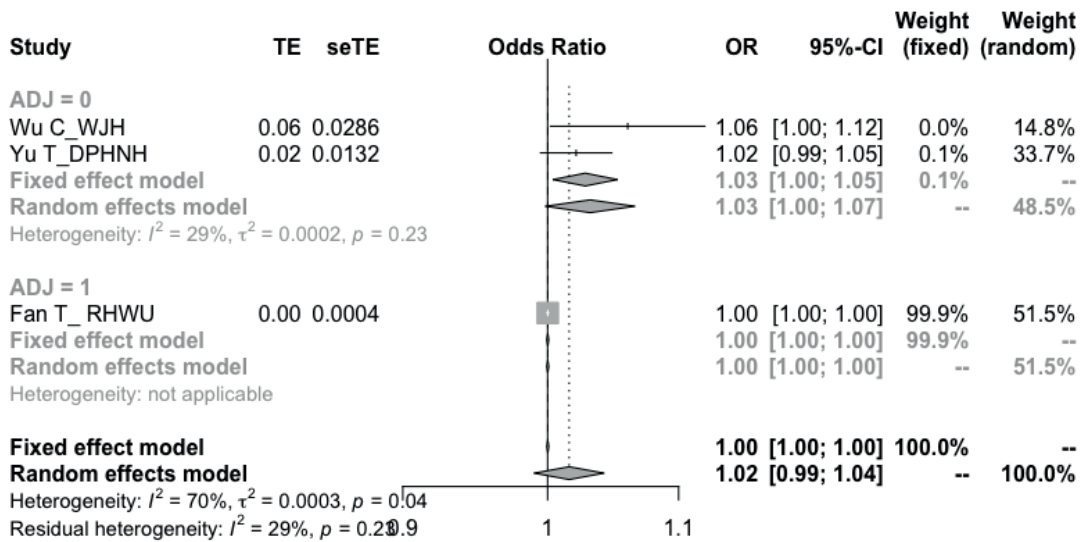
Candidate variable: Low platelet count (less than 100-150 x 10⁹/L), outcome:severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



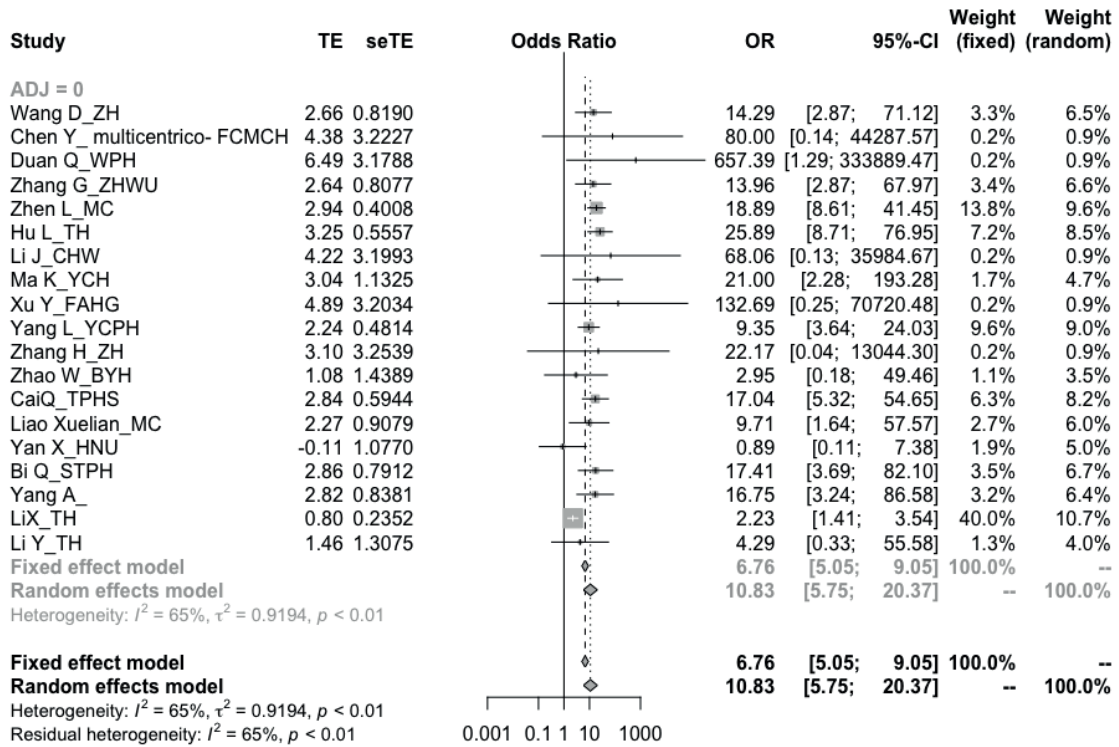
Candidate variable: High creatinine (more than 1.5 mg%), outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



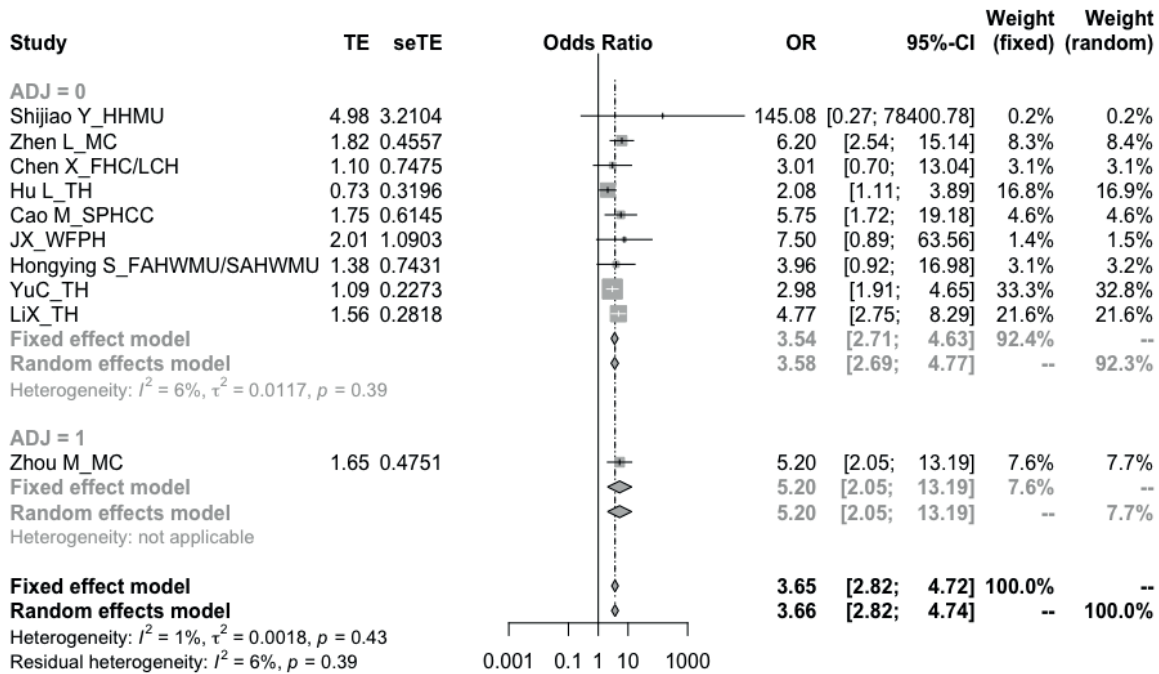
Candidate variable: Creatinine increase (per 0.1 mg%), outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



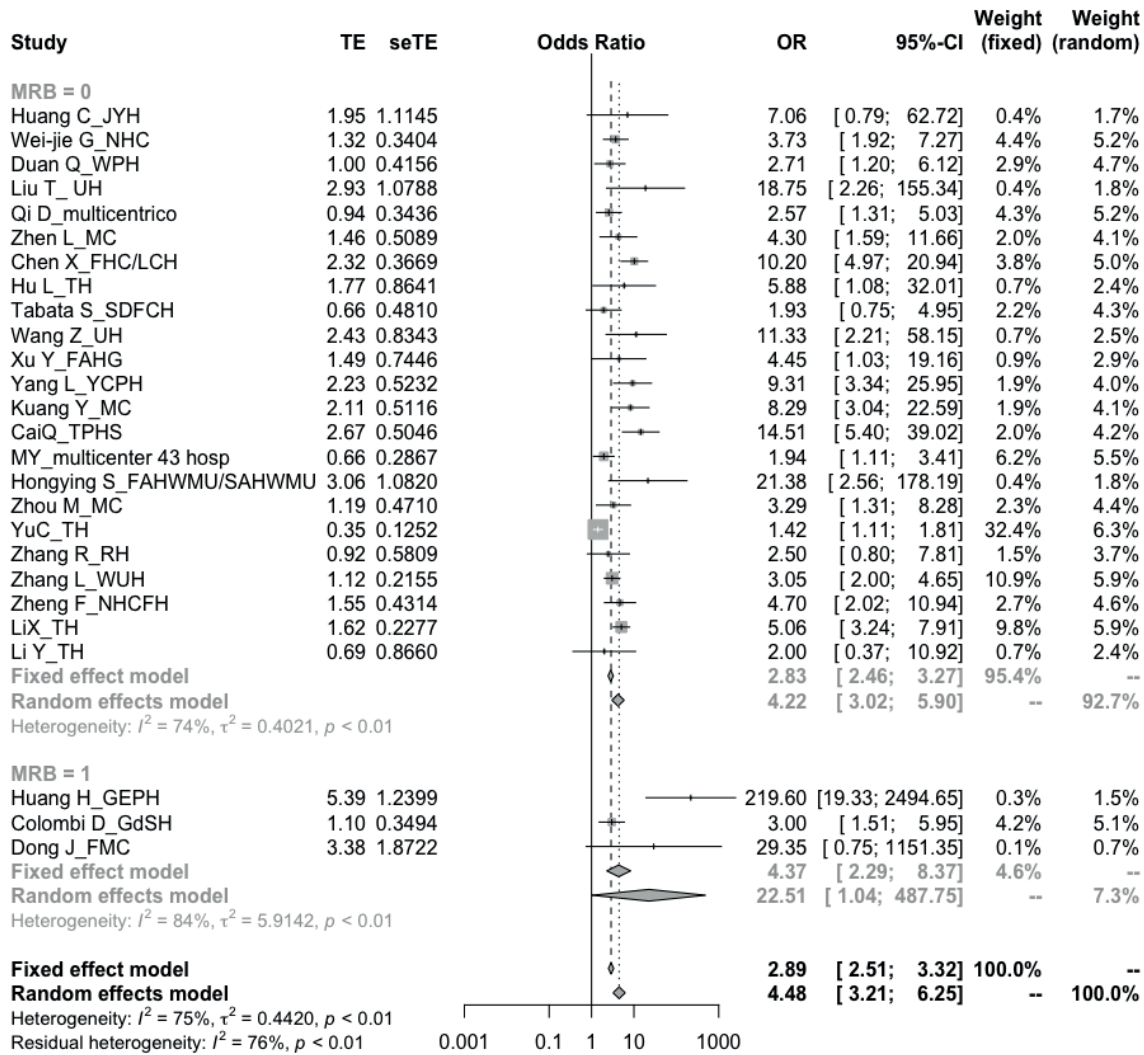
Candidate variable: Acute kidney injury, outcome: severe Covid-19 disease



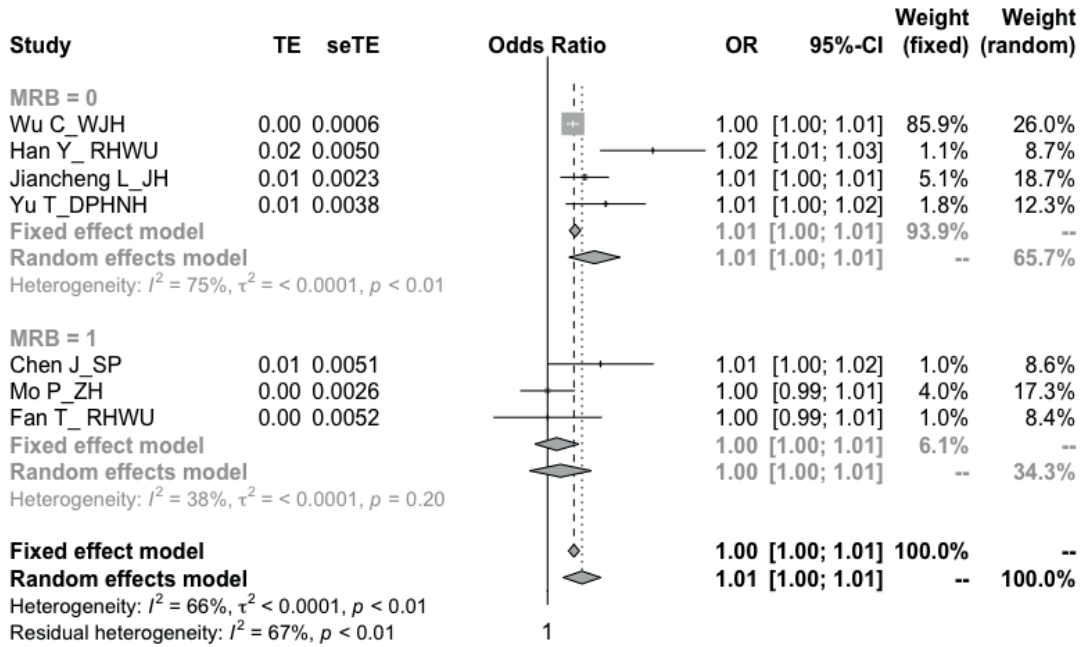
Candidate variable: High BUN (more than 5.2-9.5 mmol/L), outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



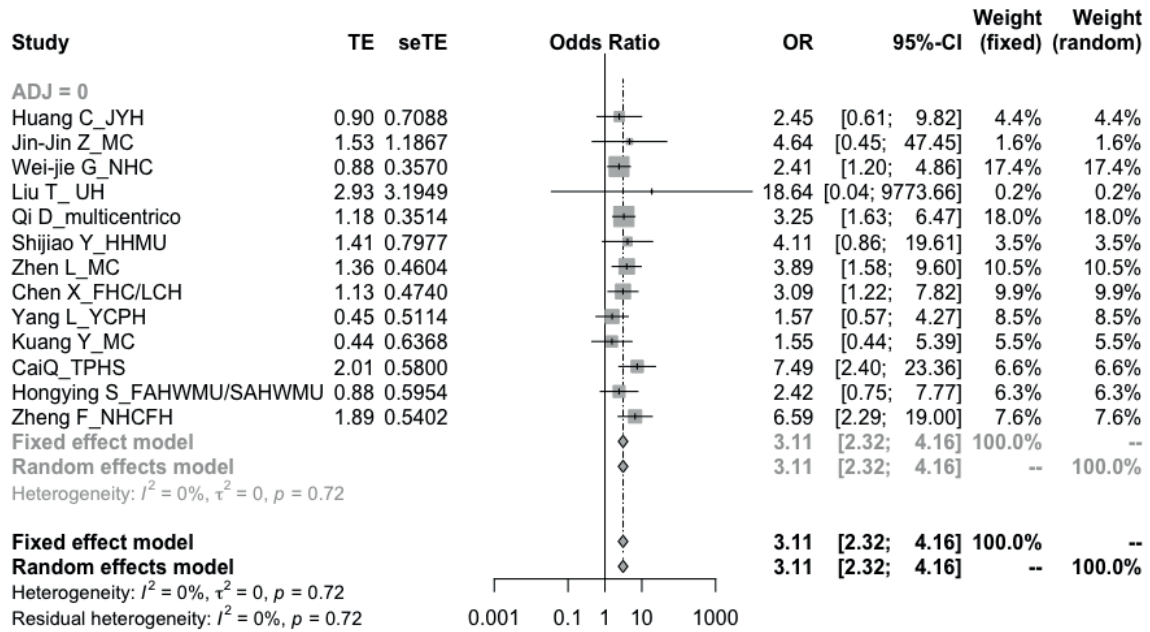
Candidate variable: High LDH (more than 240-250 U/L), outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



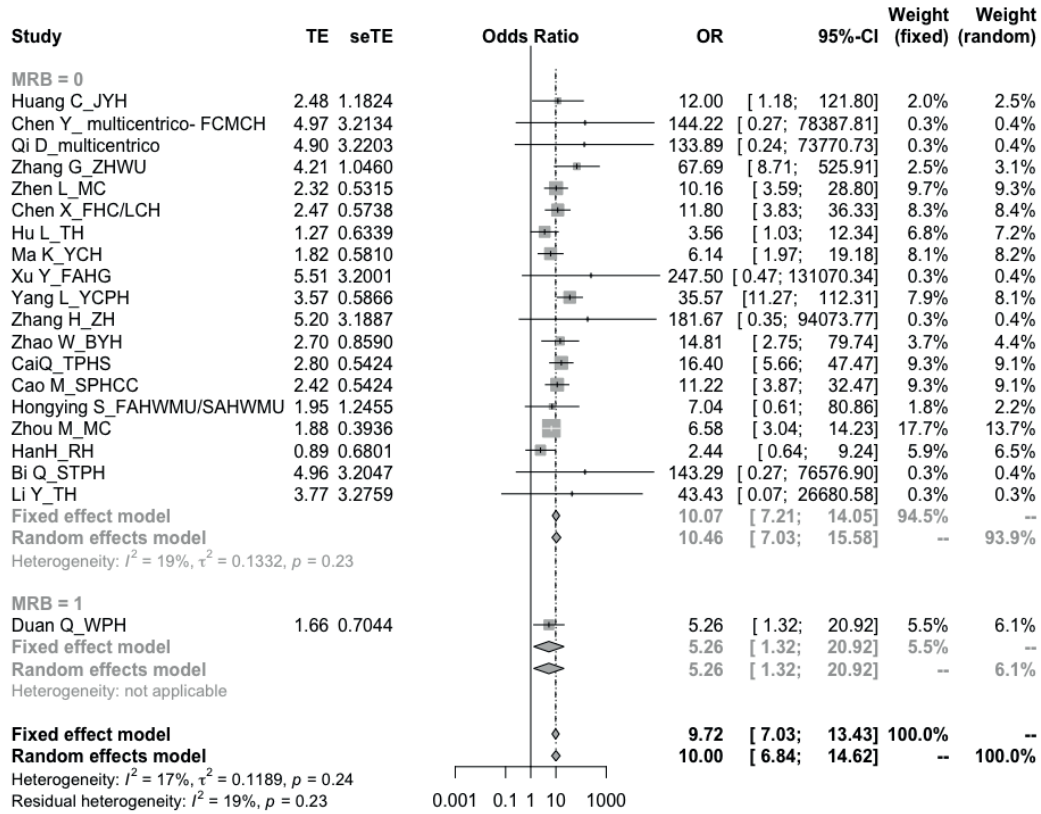
Candidate variable: LDH increase (per 1 U/L), outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



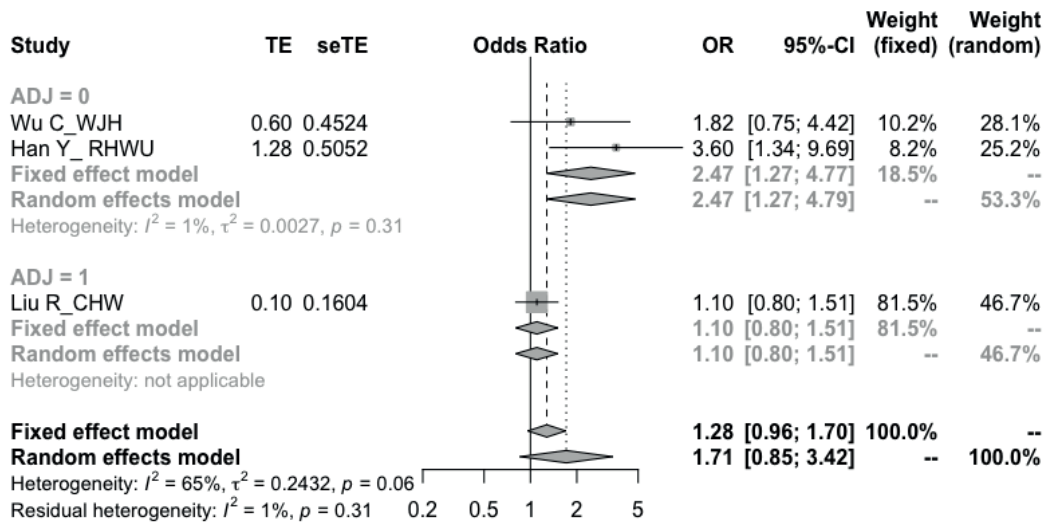
Candidate variable: High CK (more than 185-200 U/L), outcome: severe Covid-19 disease



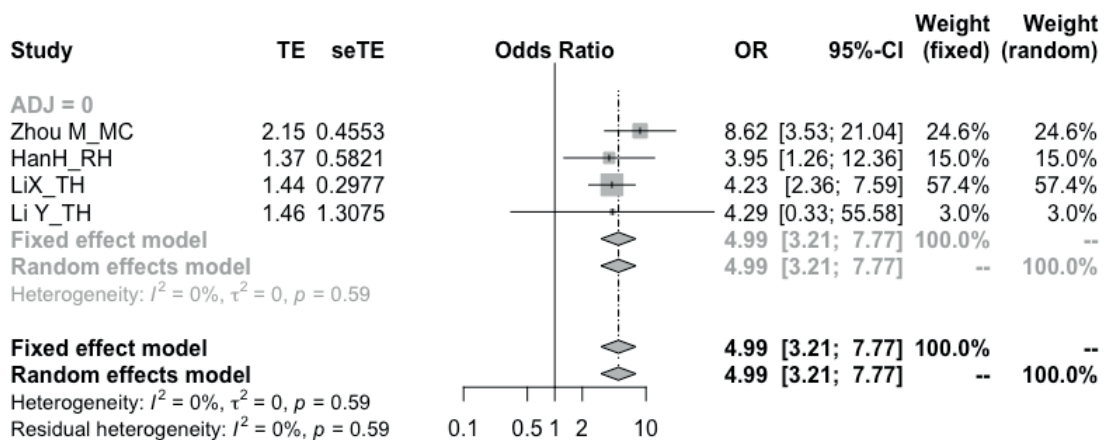
Candidate variable: Myocardial injury, outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



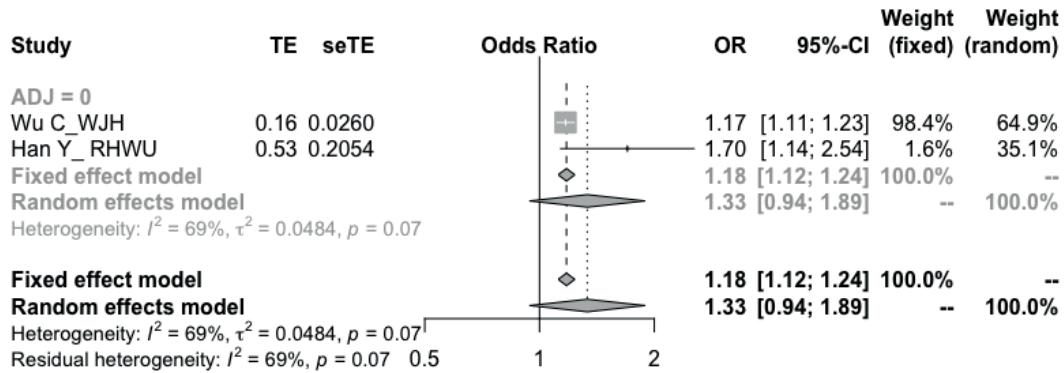
Candidate variable: High CK-MB (more than 25 U/L), outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



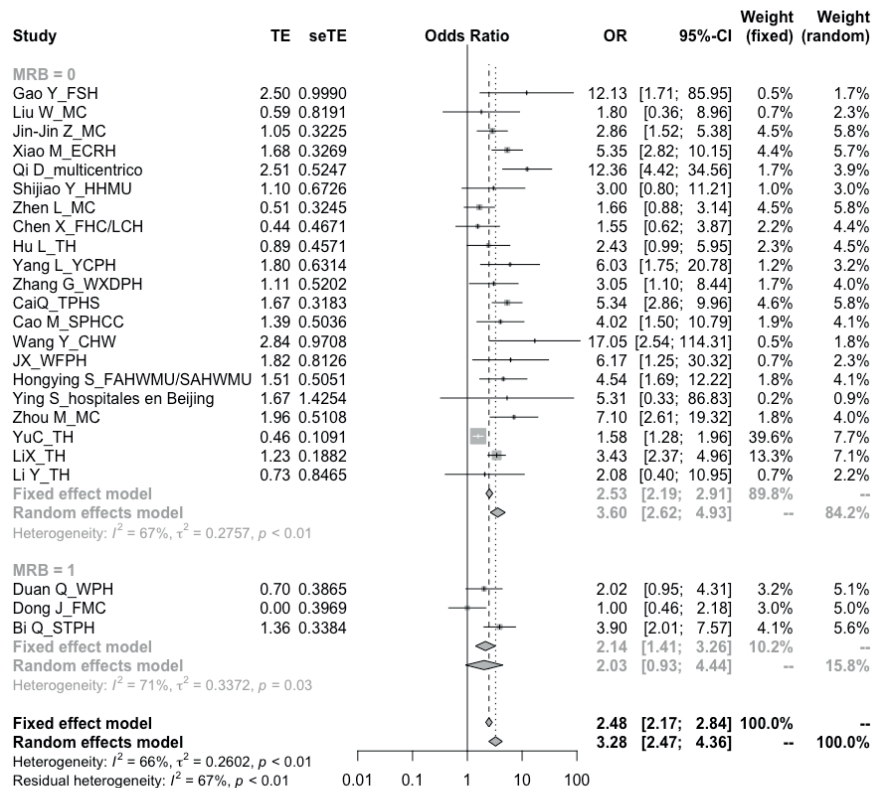
Candidate variable: High BNP (more than 500-900 pg/mL), outcome: severe Covid-19 disease



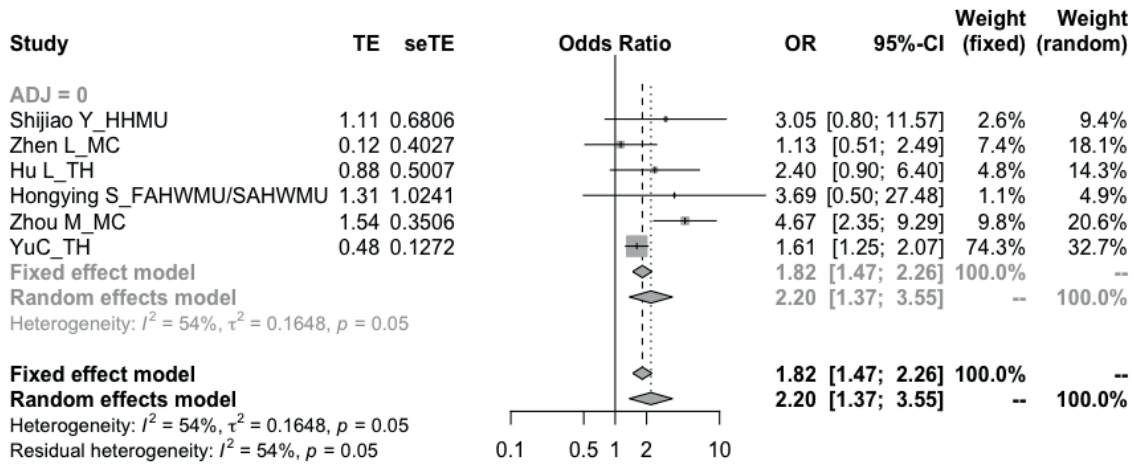
Candidate variable: Urea increase (per 1 mmol/L), outcome: severe Covid-19 disease



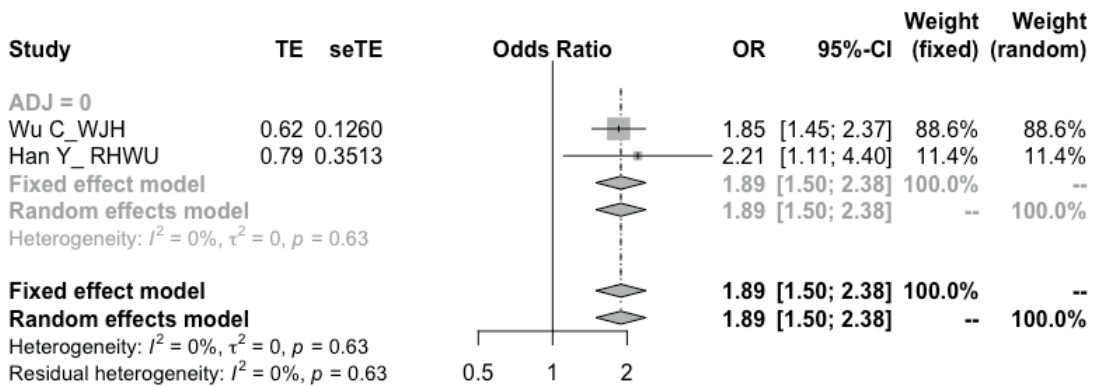
Candidate variable: High D-dimer (more than 500-1000 ng/ml), outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



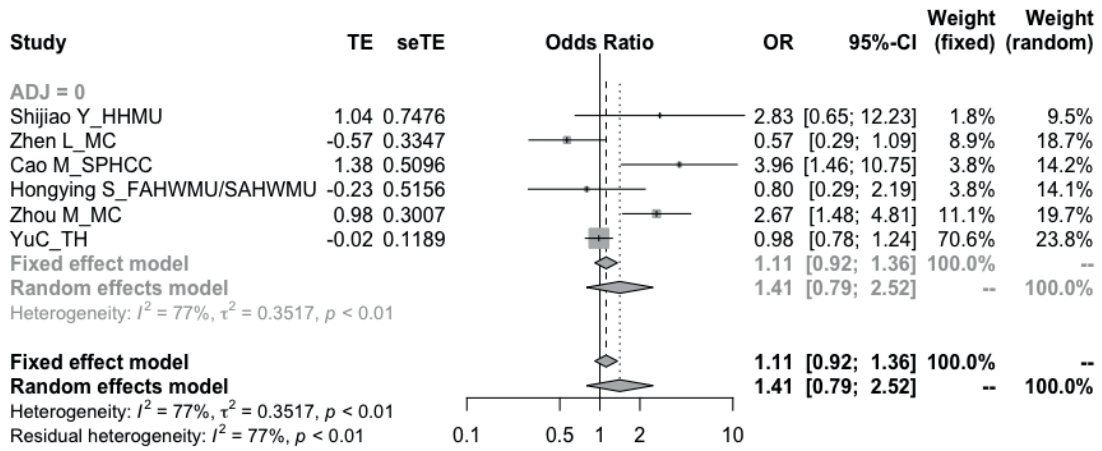
Candidate variable: Prolonged PT, outcome: severe Covid-19 disease



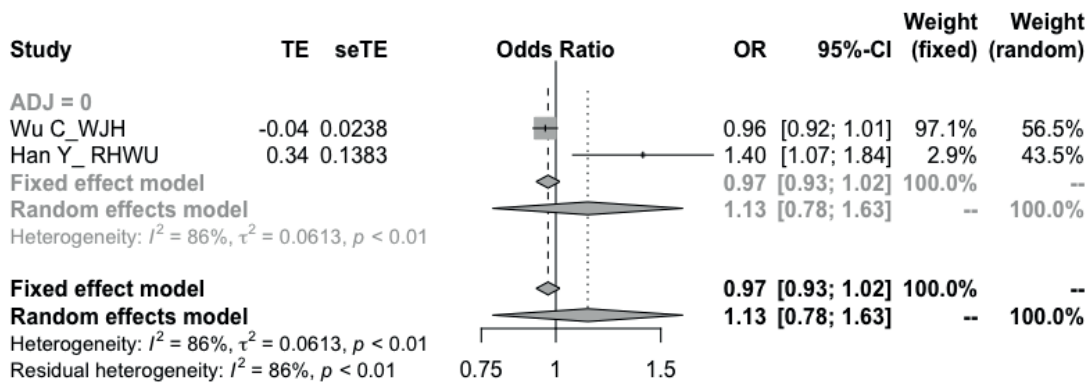
Candidate variable: Increase PT (per 1 second), outcome: severe Covid-19 disease



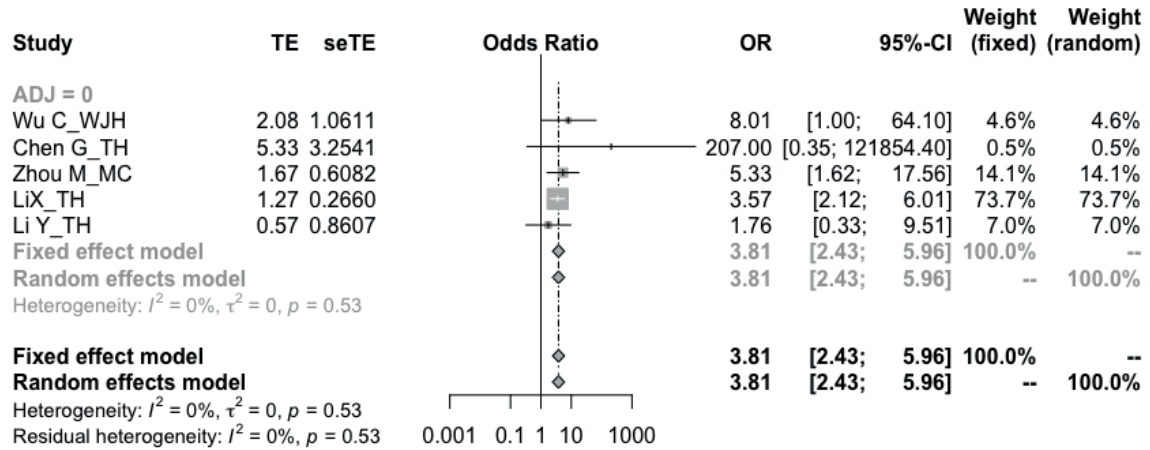
Candidate variable: Prolonged APTT time, outcome: severe Covid-19 disease



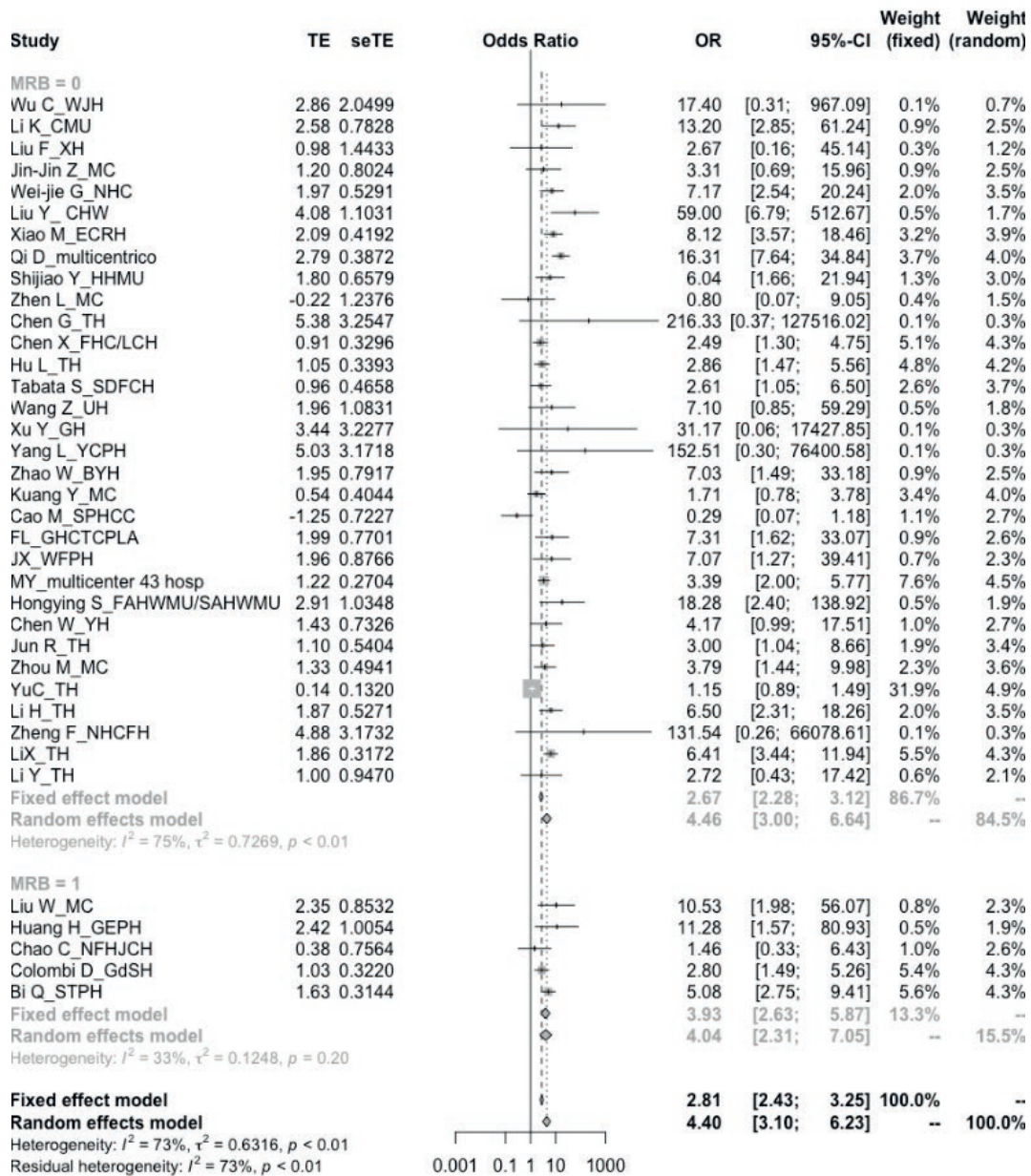
Candidate variable: Increase APTT time (per 1 second), outcome: severe Covid-19 disease



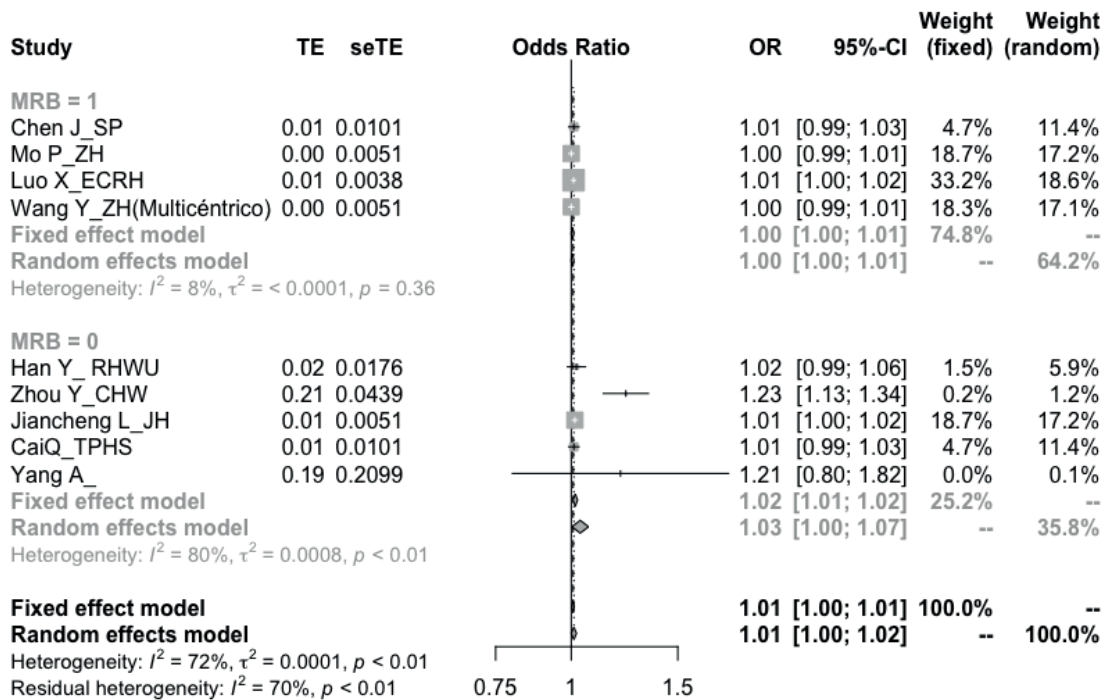
Candidate variable: High ferritin (more than 300-500 ng/mL), outcome: severe Covid-19 disease



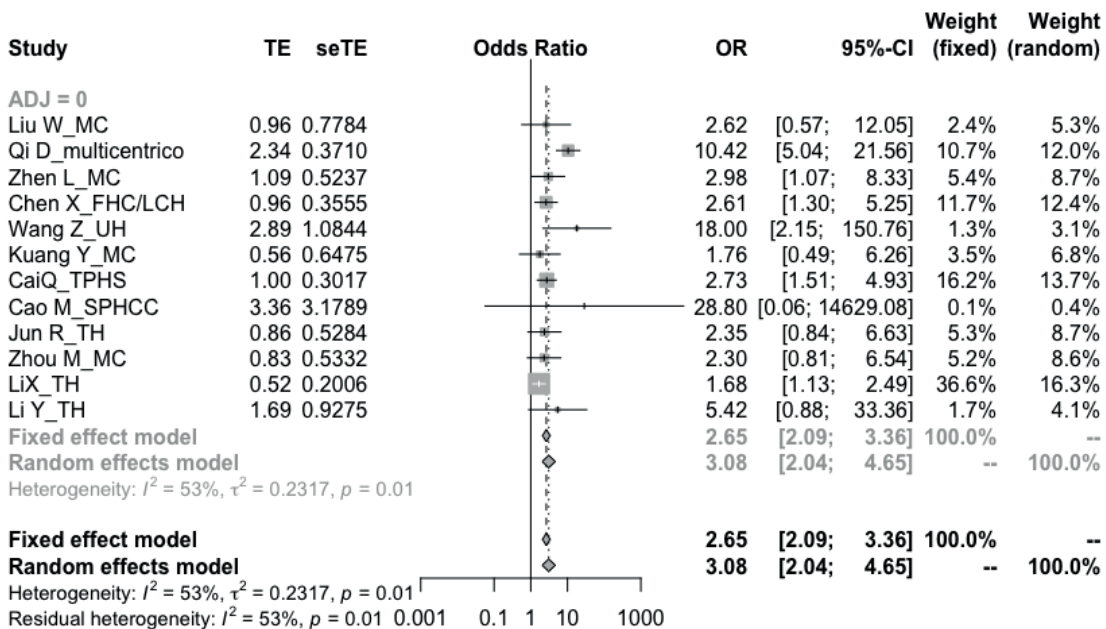
Candidate variable: High CRP (More than 1-100 mg/l) outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



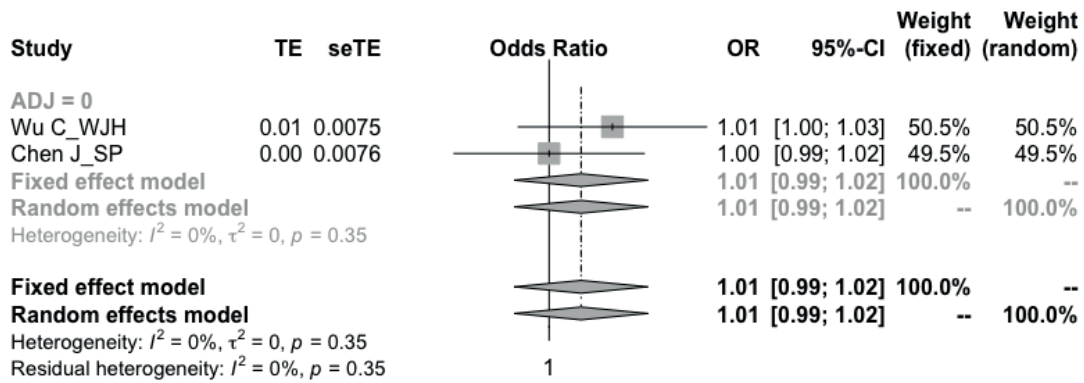
Candidate variable: CRP increase (per 1 mg/L), outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



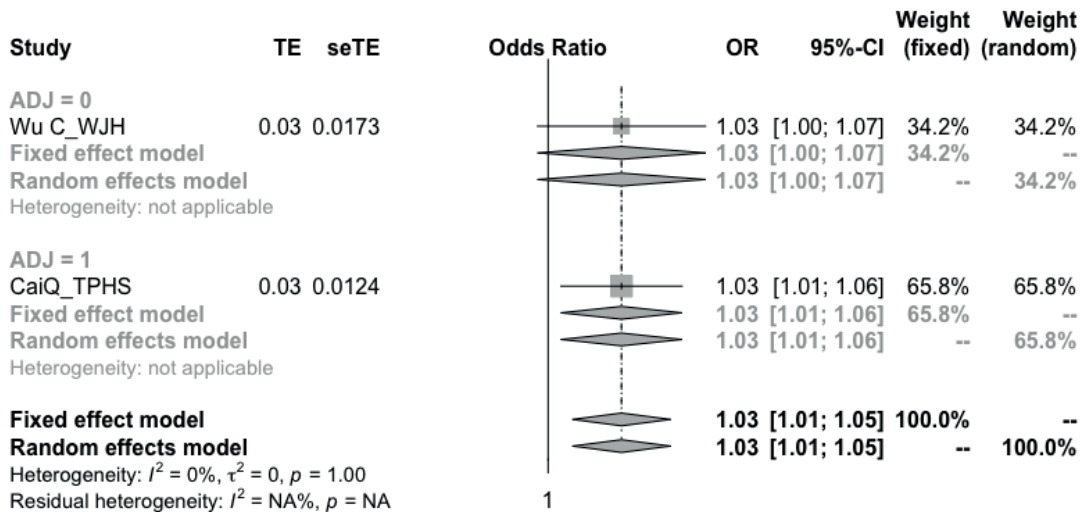
Candidate variable: High ESR (more than 10-20 mm/H), outcome: severe Covid-19 disease



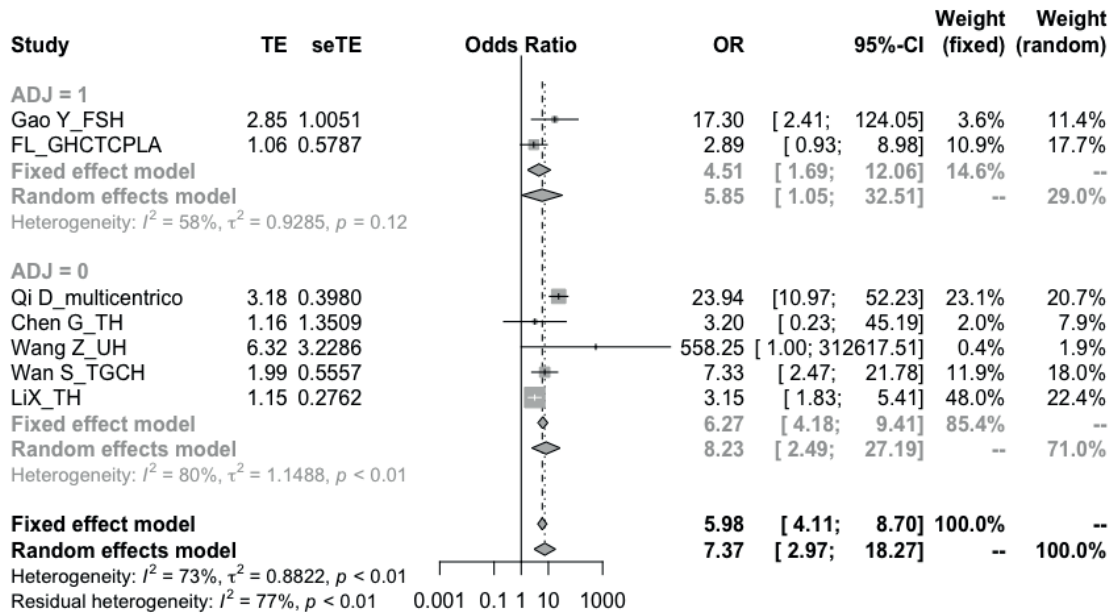
Candidate variable: ESR increase (per 1 mm/H), outcome: severe Covid-19 disease



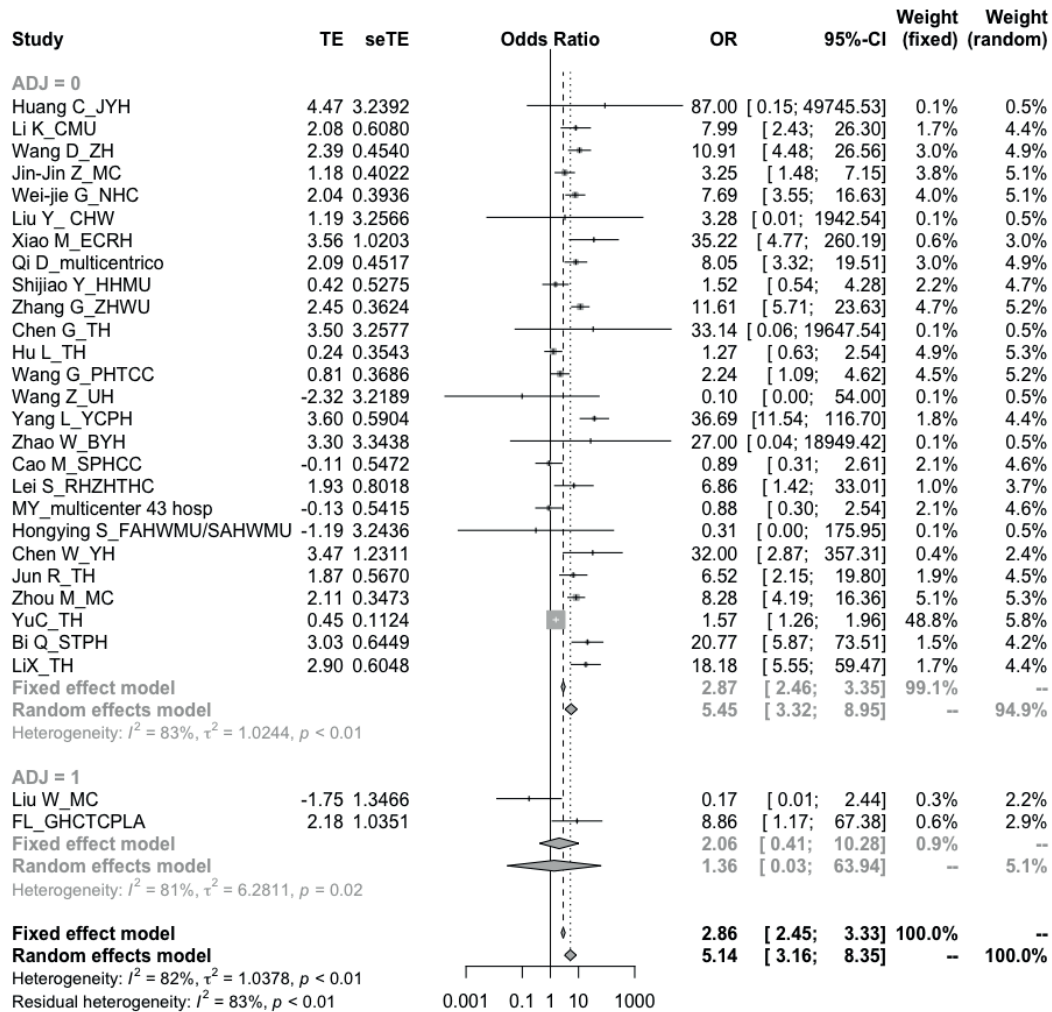
Candidate variable: IL-6 increase (per 1 pg/mL), outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



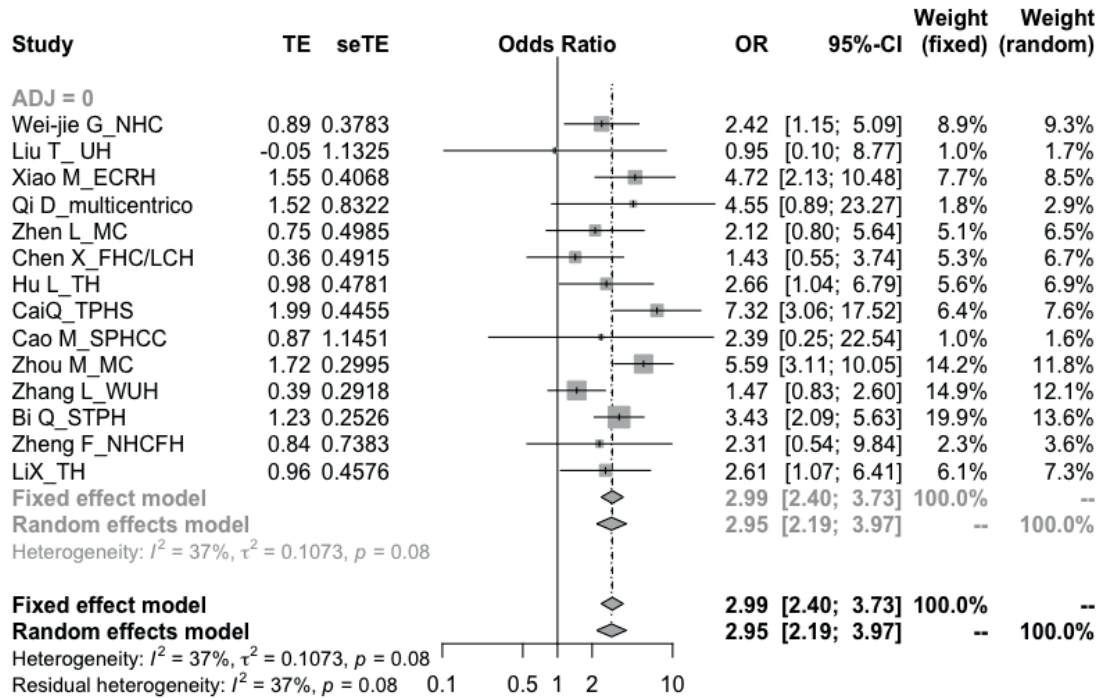
Candidate variable: High interleukin-6 (more than 5-20 pg/ml), outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



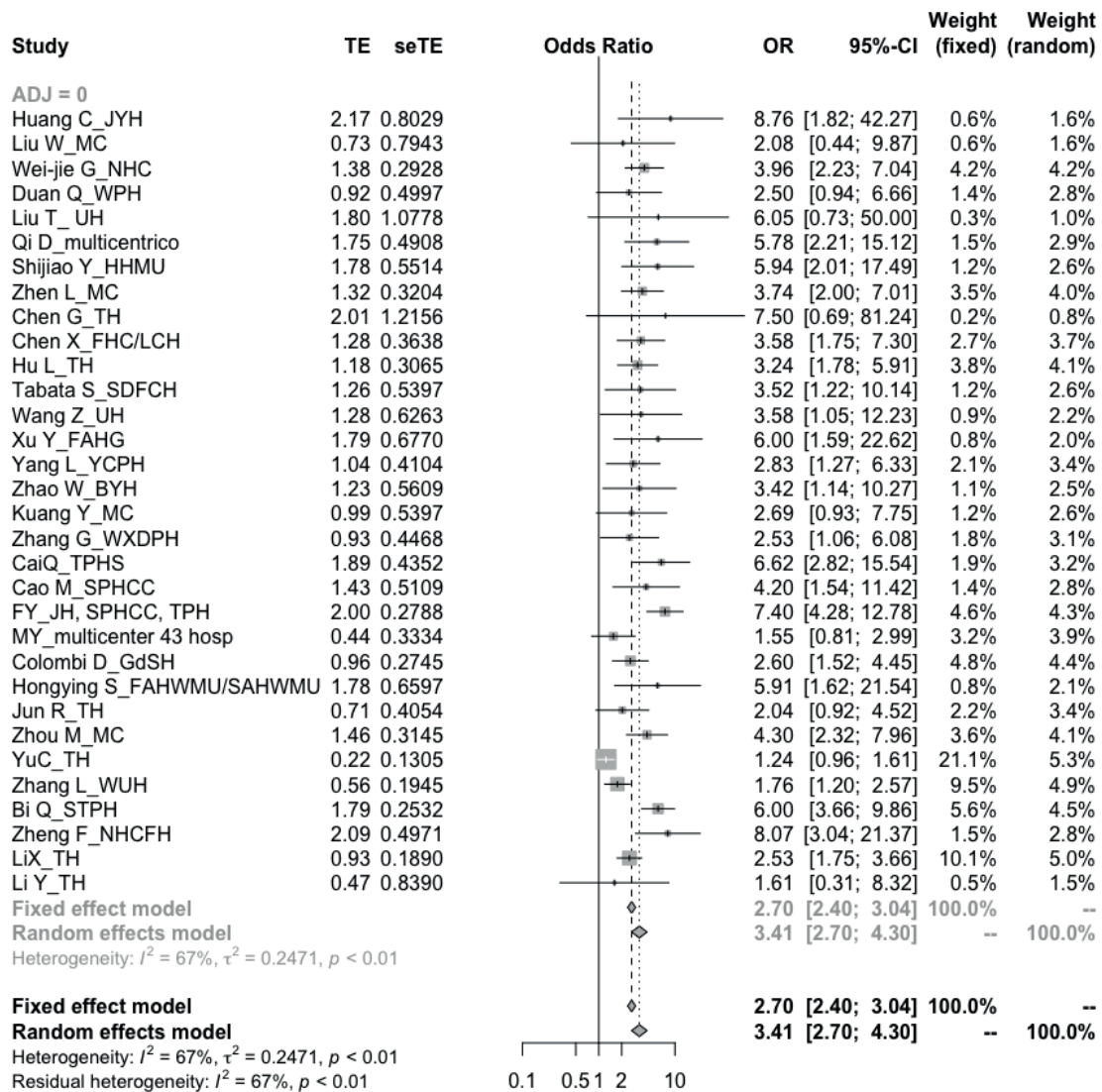
Candidate variable: High procalcitonin (more than 0.01-05 ng/ml),
 outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



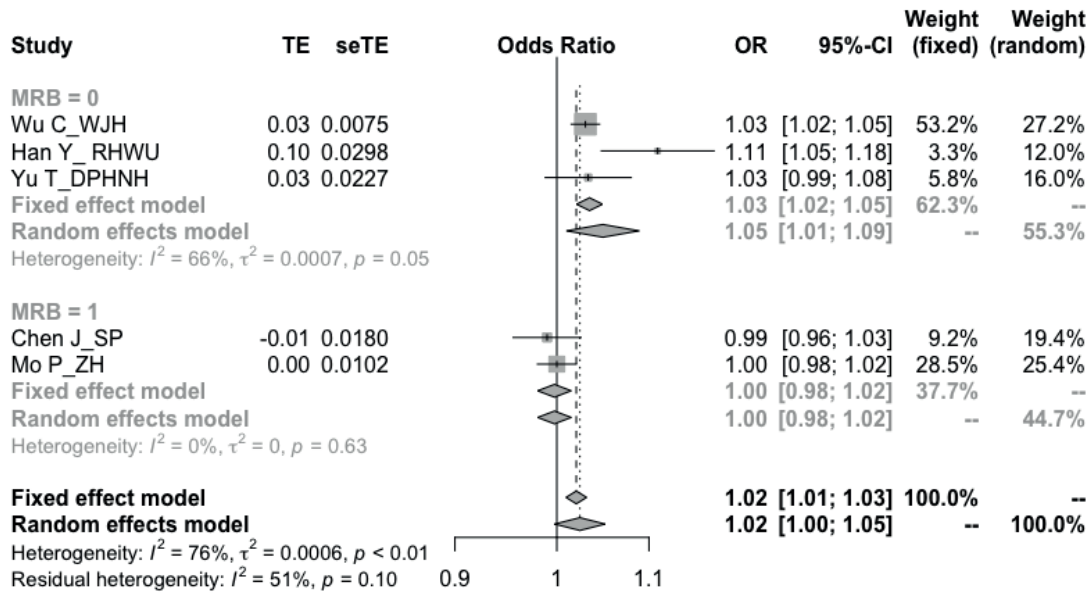
Candidate variable: High total bilirubin (more than 17-21pg/ml), outcome: severe Covid-19 disease



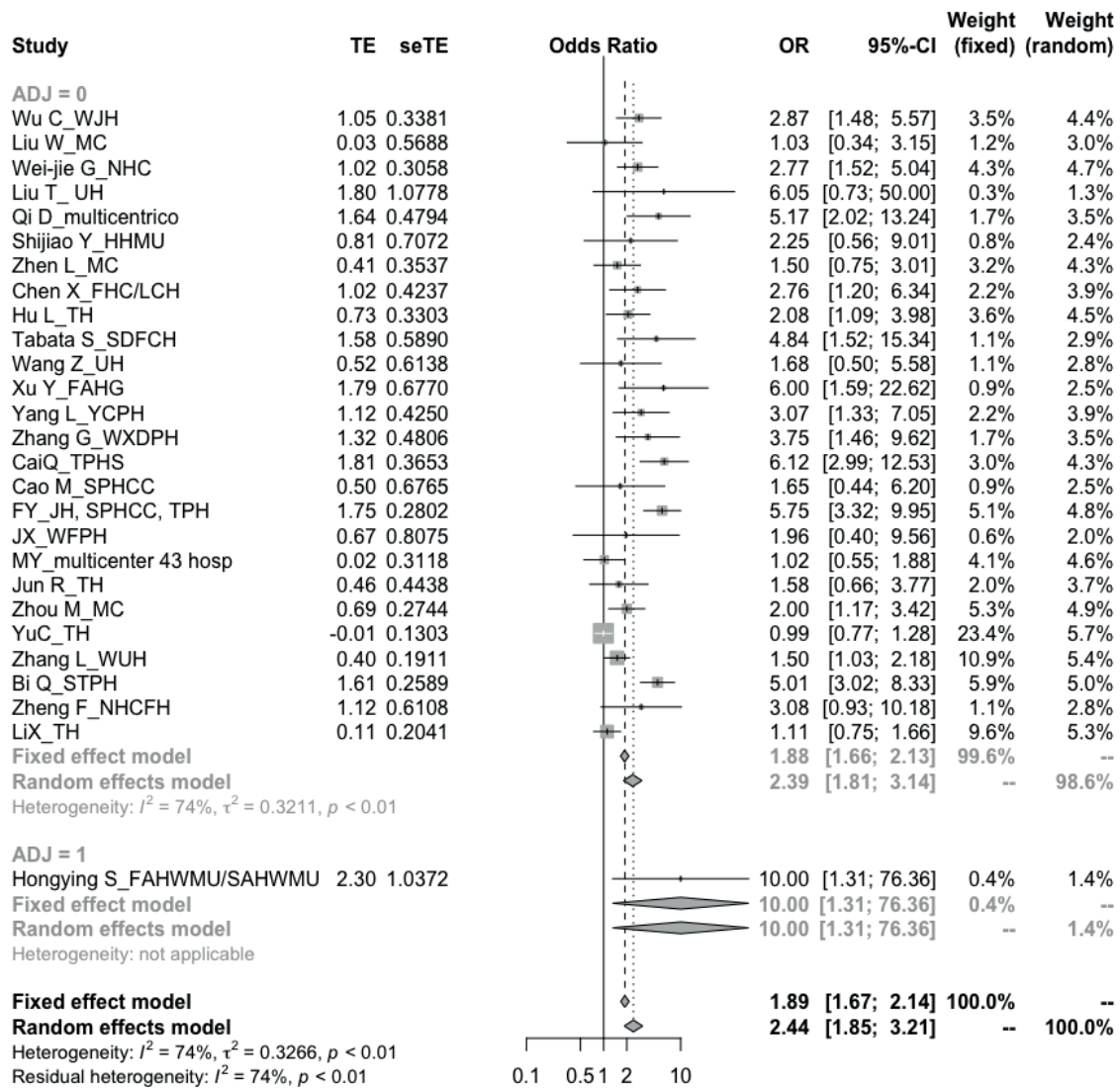
Candidate variable: High AST level (more than 32-40 U/l), outcome: severe Covid-19 disease



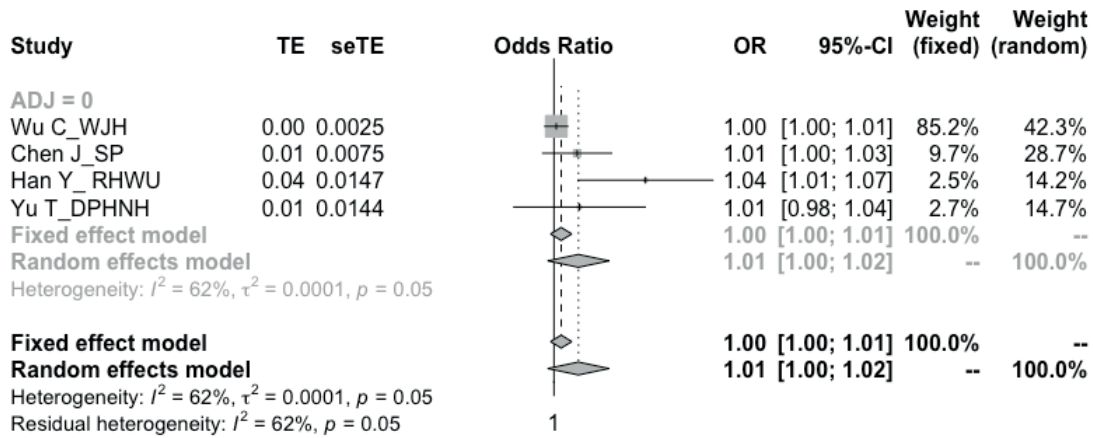
Candidate variable: AST increase (per 1 U/), outcome: severe Covid-19 disease, subgroup analysis by risk of bias (high vs moderate/low)



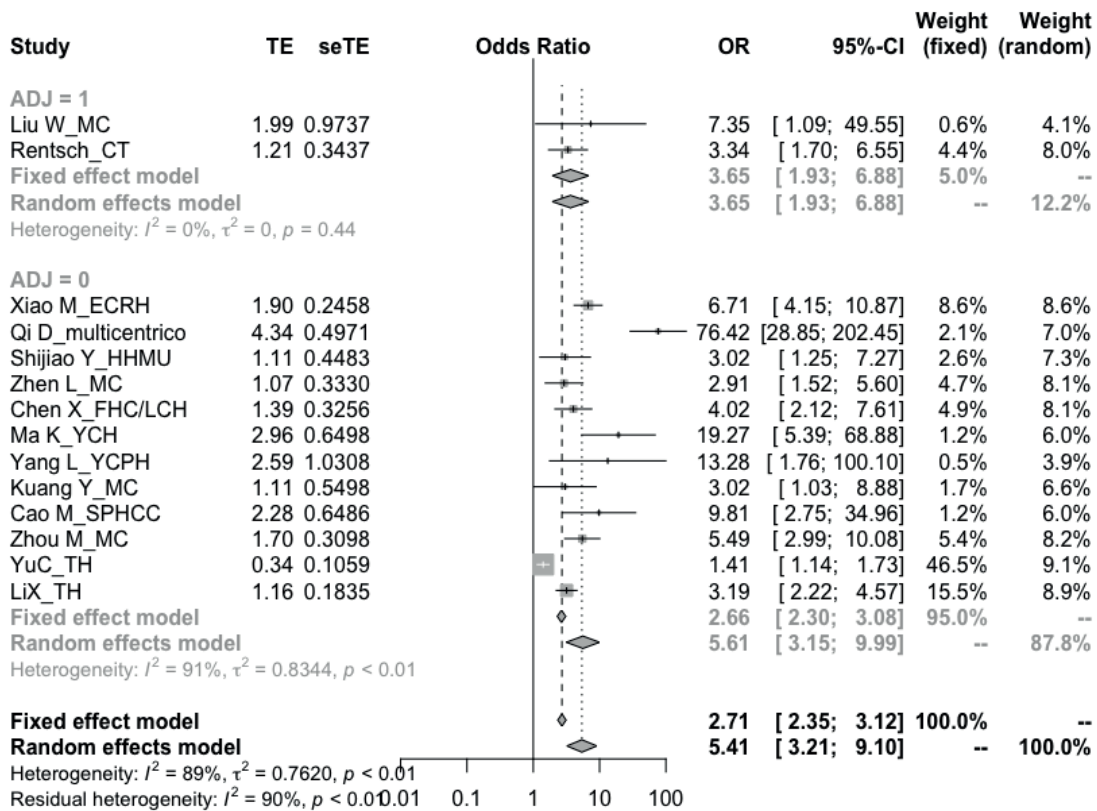
Candidate variable: High ALT level (more than 35-50 U/L), outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



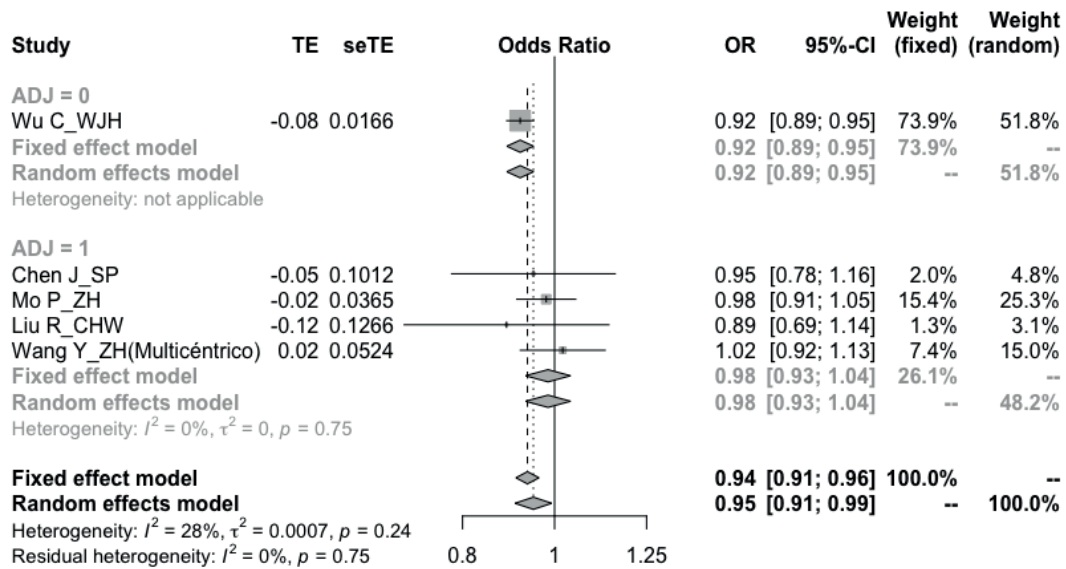
Candidate variable: Increase ALT level (per 1 U/L), outcome: severe Covid-19 disease



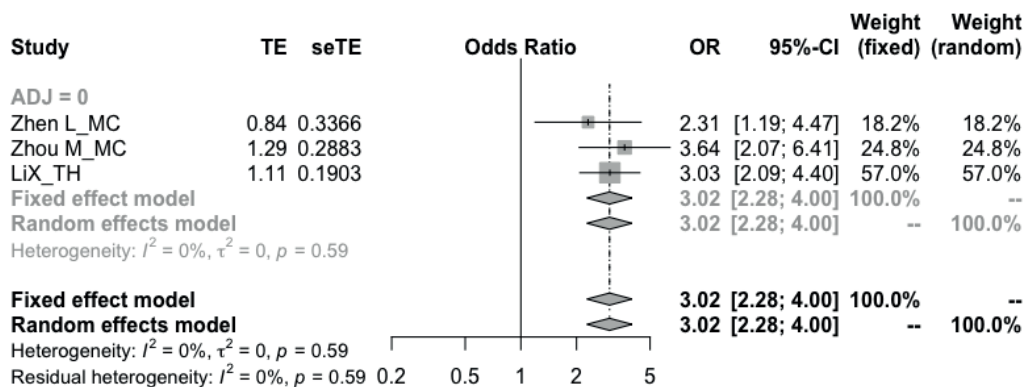
Candidate variable: Low albumin (less than 35-40 g/L), outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



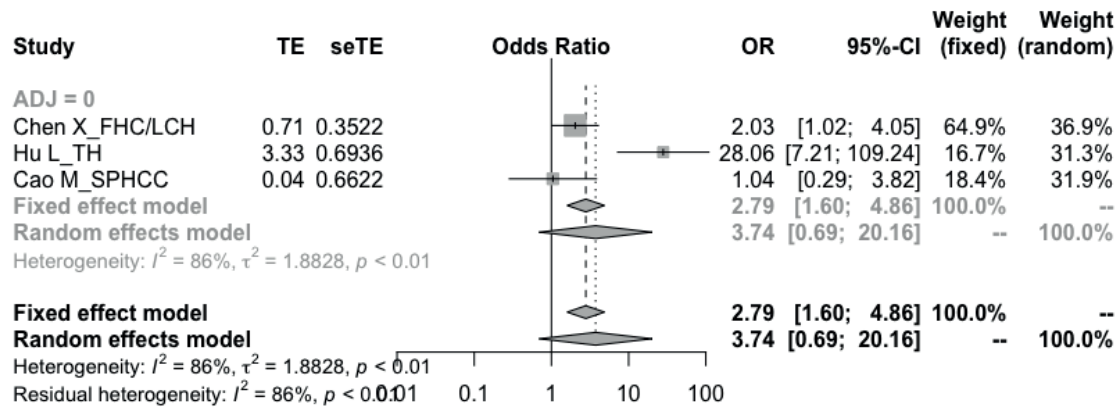
Candidate variable: Increase albumin (per 10 g/L), outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



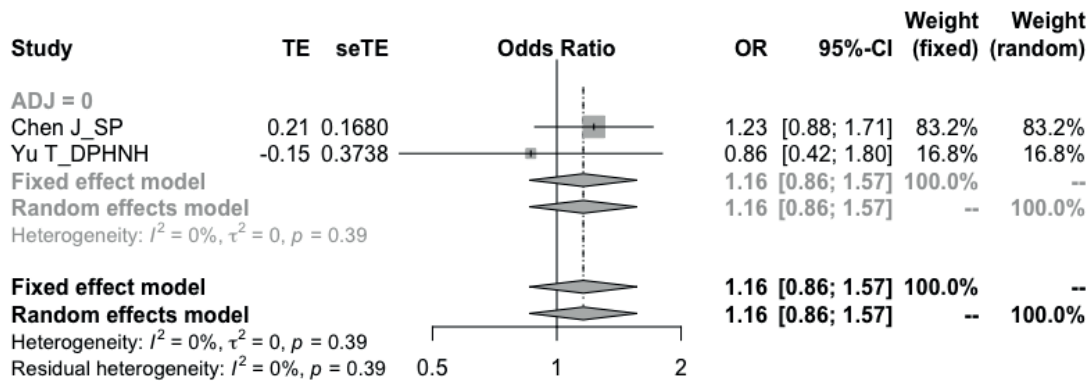
Candidate variable: High glucose (more than 6 mmol/l), outcome: severe Covid-19 disease



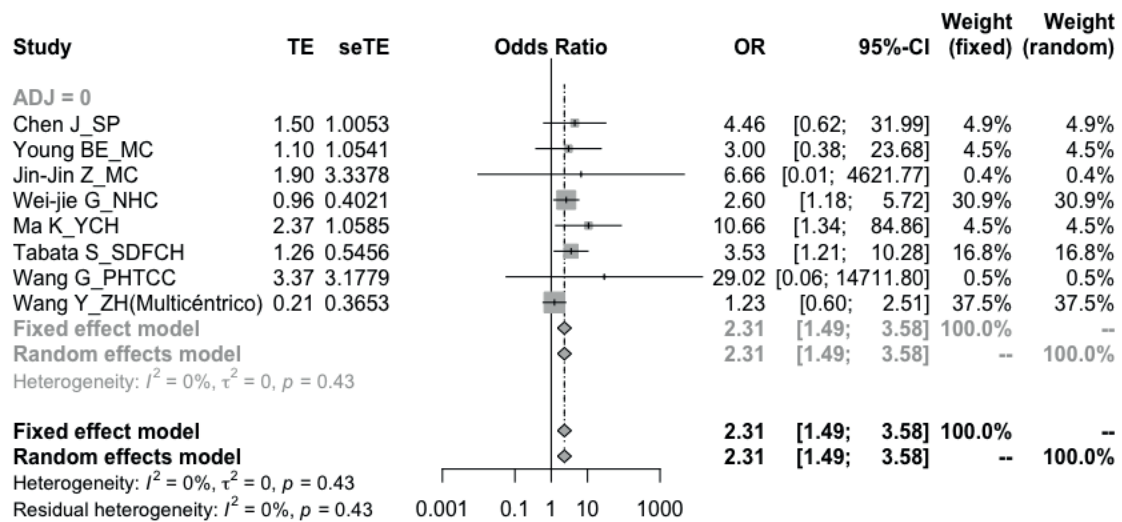
Candidate variable: High lactate (more than 1.5-2.2 mmol/L), outcome: severe Covid-19 disease



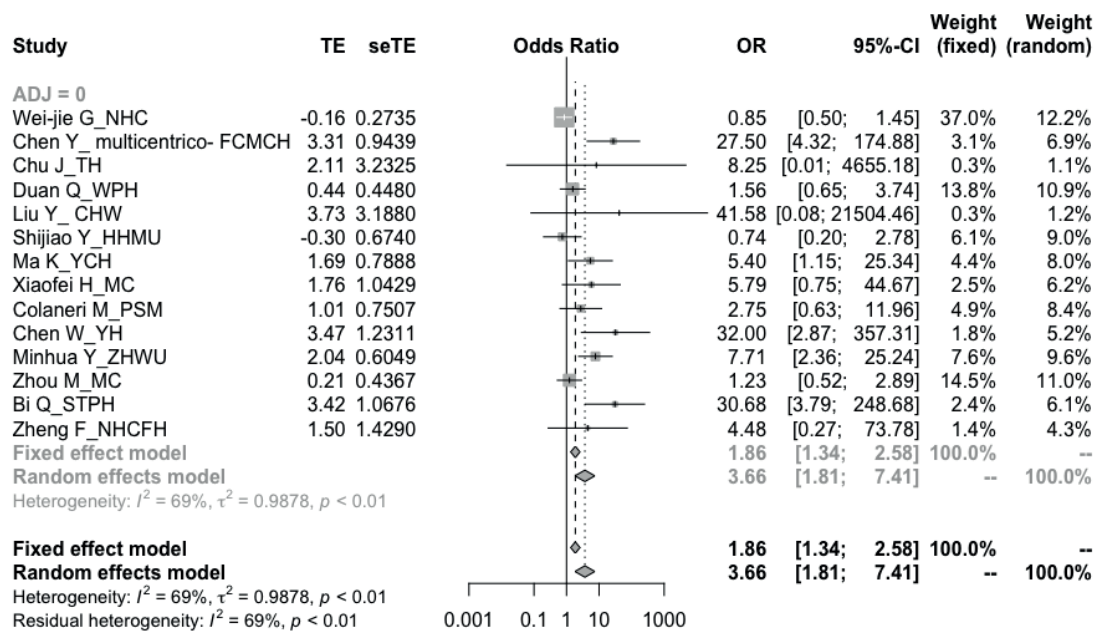
Candidate variable: Lactate increase (per 1 mmol/L), outcome: severe Covid-19 disease



Candidate variable: Any abnormal Radiologic finding, outcome: severe Covid-19 disease



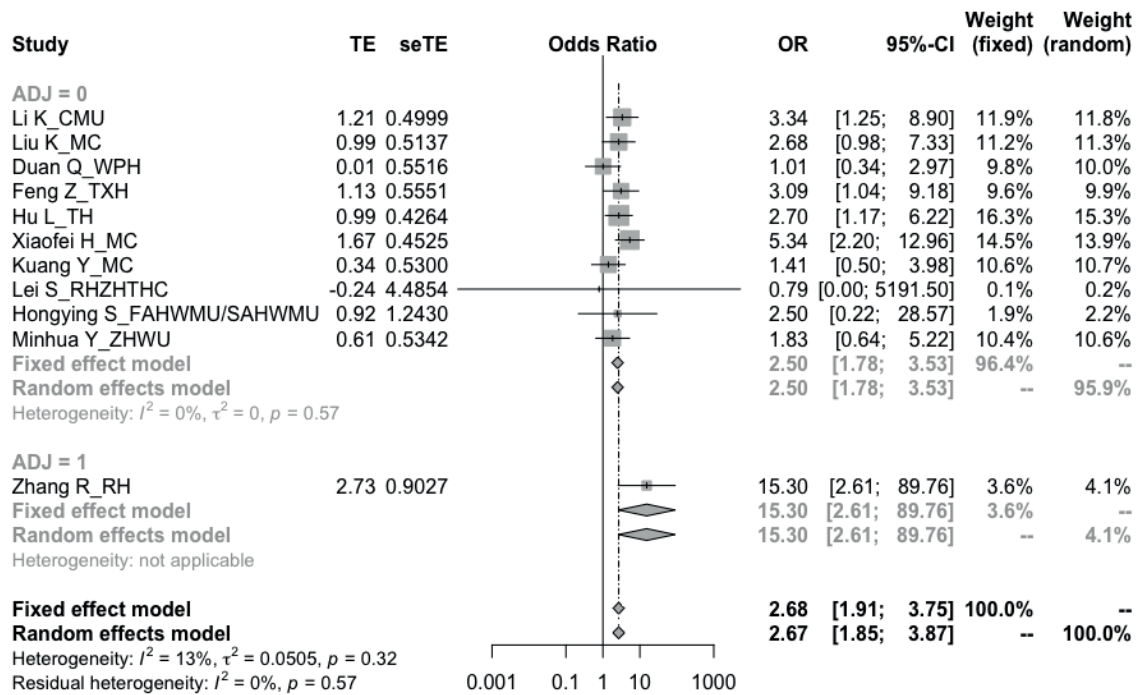
Candidate variable: Interstitial pattern, outcome: severe Covid-19 disease



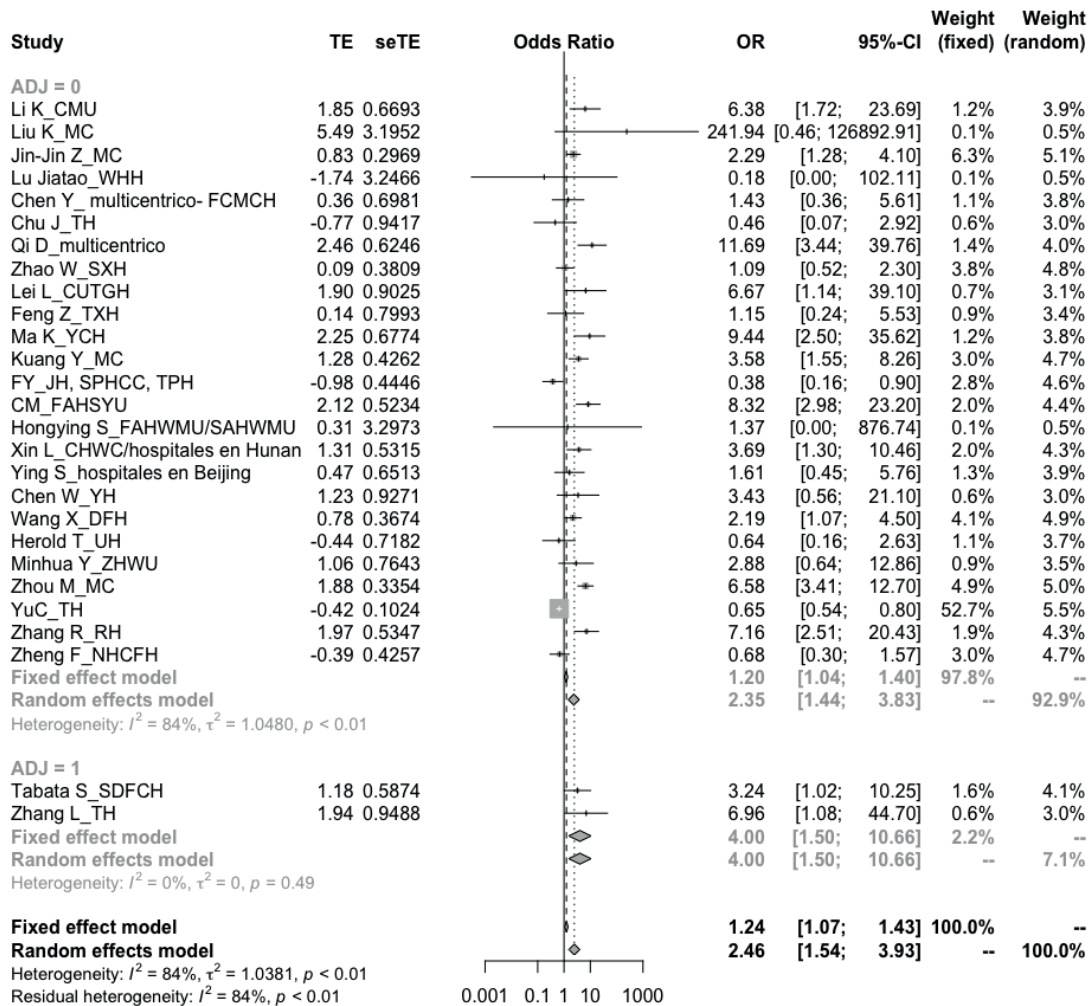
Candidate variable: Ground glass opacity, outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)

Study	TE	seTE	Odds Ratio	OR	95%-CI	(fixed)	(random)
ADJ = 0							
Li K_CMU	2.14	3.2533		8.48	[0.01; 4985.36]	0.0%	0.3%
Liu K_MC	0.79	0.5835		2.21	[0.70; 6.92]	1.4%	3.7%
Cao W_X-1 H	0.73	0.5493		2.07	[0.70; 6.07]	1.6%	3.9%
Chu J_TH	0.51	0.7176		1.66	[0.41; 6.79]	0.9%	3.0%
Duan Q_WPH	0.09	0.5878		1.10	[0.35; 3.47]	1.4%	3.7%
Liu T_UH	1.61	3.2309		5.00	[0.01; 2812.91]	0.0%	0.3%
Shijiao Y_HHMMU	0.87	0.6019		2.38	[0.73; 7.73]	1.3%	3.6%
Zhao W_SXH	-0.71	0.5285		0.49	[0.17; 1.39]	1.7%	4.0%
Lei L_CUTGH	0.43	1.1429		1.54	[0.16; 14.49]	0.4%	1.7%
Feng Z_TXH	2.00	3.2006		7.38	[0.01; 3909.80]	0.0%	0.3%
Hu L_TH	-1.37	0.4576		0.25	[0.10; 0.62]	2.3%	4.4%
Li J_CHW	-0.68	0.5272		0.50	[0.18; 1.42]	1.7%	4.0%
Wang G_PHTCC	1.54	0.4088		4.67	[2.09; 10.40]	2.9%	4.7%
Xiaofei H_MC	1.02	0.5707		2.77	[0.91; 8.49]	1.5%	3.8%
Kuang Y_MC	-0.33	0.4766		0.72	[0.28; 1.83]	2.1%	4.3%
FY_JH, SPHCC, TPH	-0.25	0.3925		0.78	[0.36; 1.69]	3.1%	4.8%
CM_FAHSYU	1.09	0.5976		2.99	[0.93; 9.64]	1.3%	3.6%
JX_WFPH	3.41	3.1987		30.35	[0.06; 16029.59]	0.0%	0.3%
MY_multicenter 43 hosp	1.09	0.2959		2.98	[1.67; 5.33]	5.5%	5.4%
Hongying S_FAHWMU/SAHWMU	-0.29	1.2435		0.75	[0.07; 8.58]	0.3%	1.5%
Xin L_CHWC/hospitales en Hunan	2.69	3.1992		14.75	[0.03; 7797.57]	0.0%	0.3%
Ying S_hospitales en Beijing	3.73	3.1948		41.69	[0.08; 21851.41]	0.0%	0.3%
Chen W_YH	0.18	0.7170		1.20	[0.29; 4.89]	0.9%	3.1%
Wang X_DFH	-0.50	0.2155		0.60	[0.40; 0.92]	10.4%	5.8%
Herold T_UH	0.50	1.2142		1.65	[0.15; 17.82]	0.3%	1.5%
Minhua Y_ZHWU	-0.61	0.5929		0.54	[0.17; 1.74]	1.4%	3.7%
Zhou M_MC	1.74	0.3689		5.67	[2.75; 11.69]	3.5%	5.0%
YuC_TH	-0.17	0.1003		0.85	[0.70; 1.03]	47.8%	6.3%
Zhang R_RH	1.50	1.0633		4.46	[0.56; 35.86]	0.4%	1.9%
Bi Q_STPH	2.33	1.0220		10.33	[1.39; 76.54]	0.5%	2.0%
Zheng F_NHCFH	0.80	0.4250		2.23	[0.97; 5.12]	2.7%	4.6%
Fixed effect model				1.08	[0.94; 1.24]	97.7%	--
Random effects model				1.47	[1.04; 2.08]	--	95.6%
Heterogeneity: $I^2 = 70\%$, $\tau^2 = 0.4636$, $p < 0.01$							
ADJ = 1							
Tabata S_SDFCH	1.09	0.4571		2.97	[1.21; 7.27]	2.3%	4.4%
Fixed effect model				2.97	[1.21; 7.27]	2.3%	--
Random effects model				2.97	[1.21; 7.27]	--	4.4%
Heterogeneity: not applicable							
Fixed effect model				1.11	[0.97; 1.27]	100.0%	--
Random effects model				1.52	[1.08; 2.13]	--	100.0%
Heterogeneity: $I^2 = 70\%$, $\tau^2 = 0.4703$, $p < 0.01$							

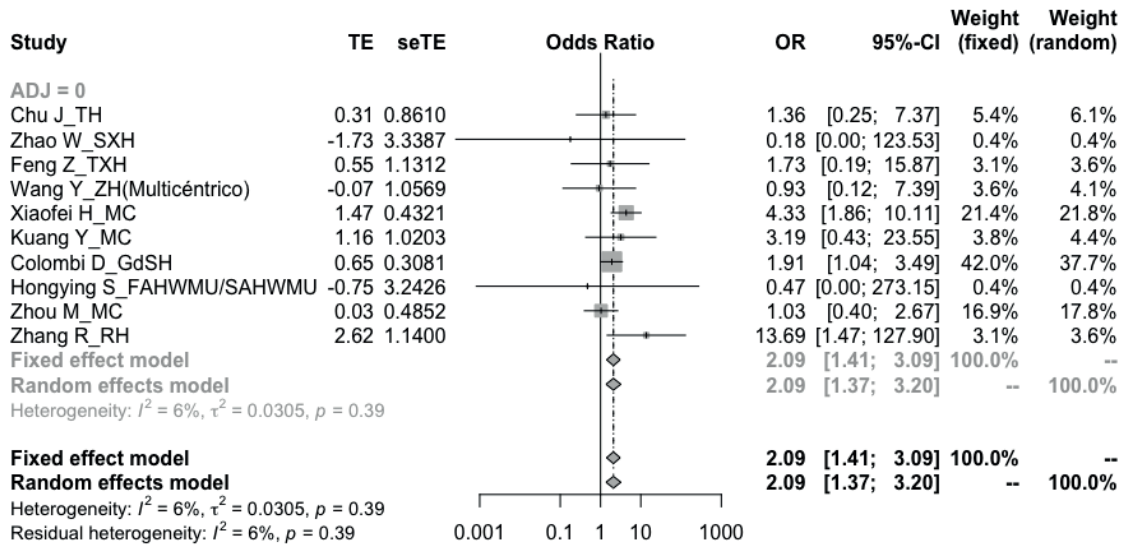
Candidate variable: Crazy paving pattern, outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



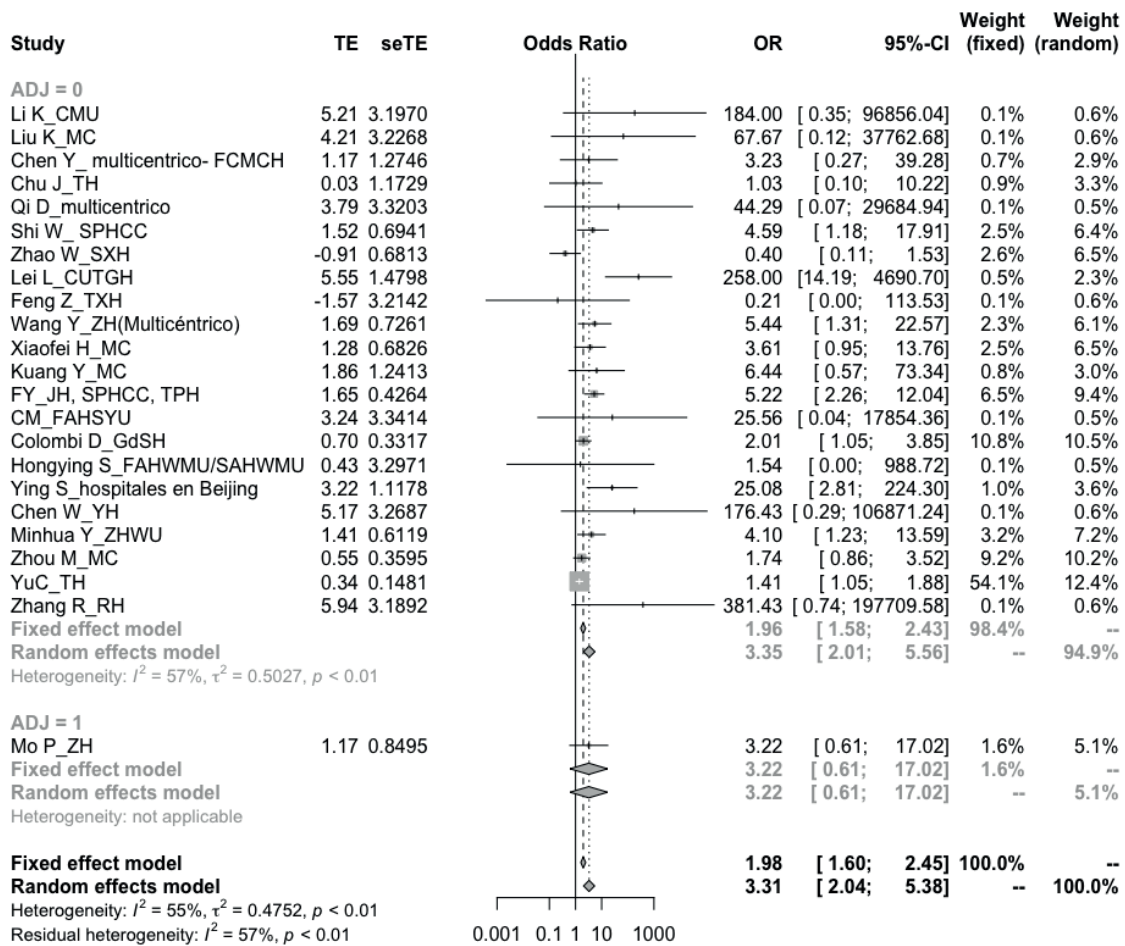
Candidate variable: Consolidation pattern, outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



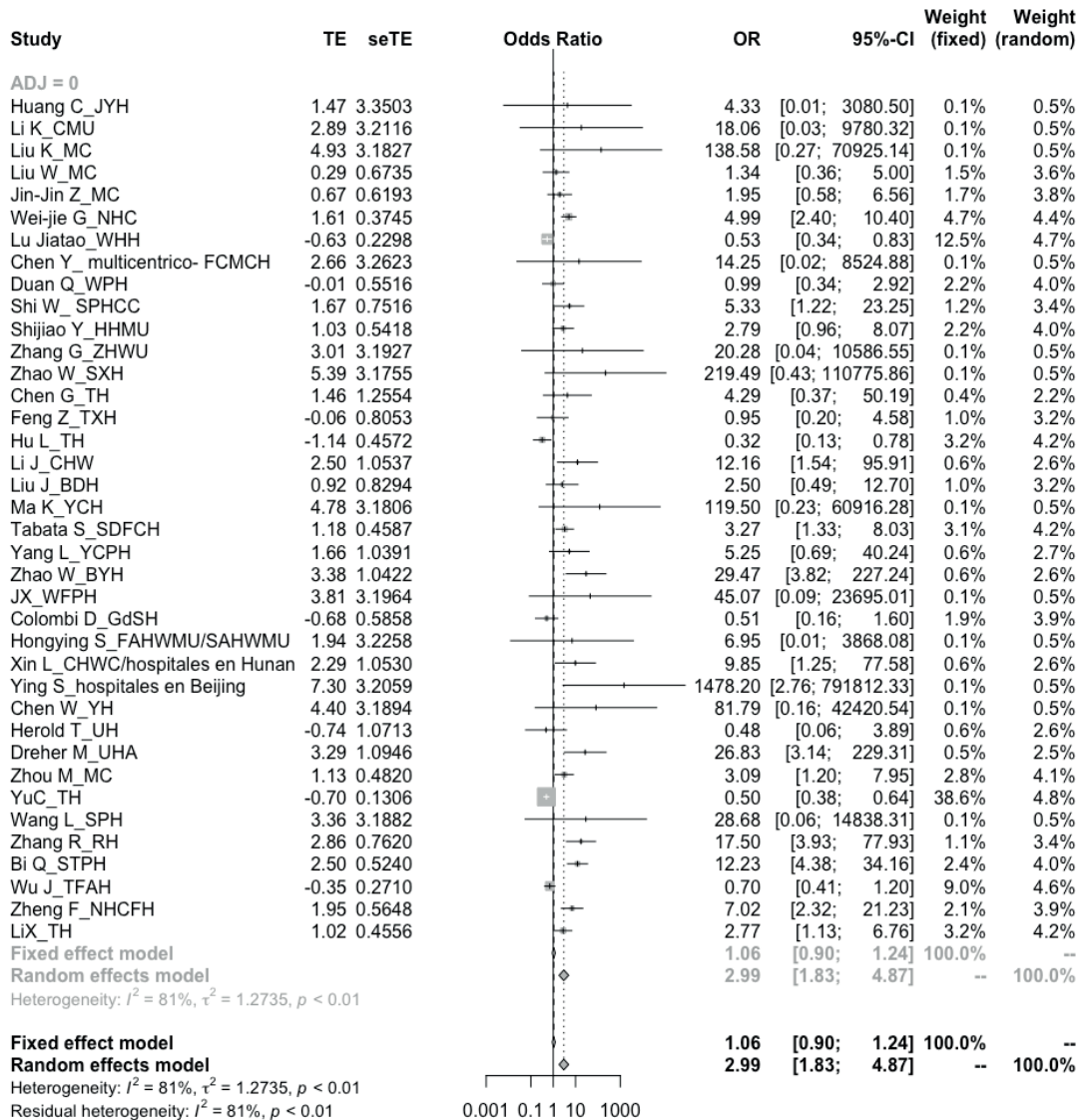
Candidate variable: Enlarged lymph nodes (CT assessment), outcome: severe Covid-19 disease



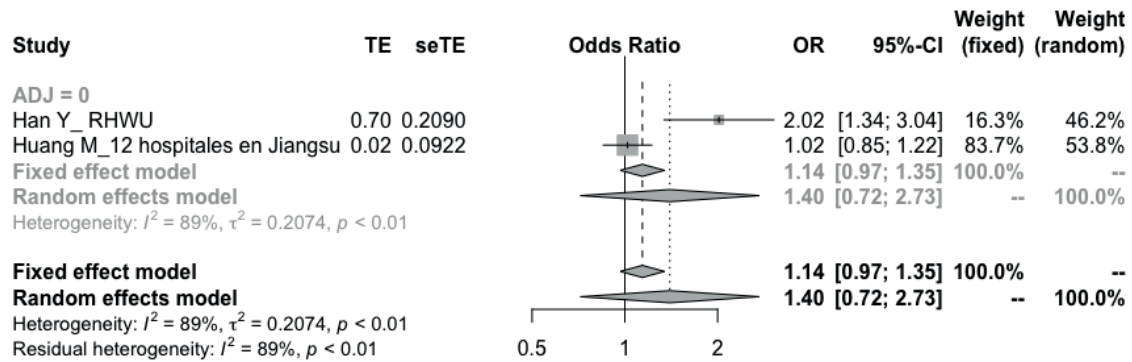
Candidate variable: Pleural effusion (CT assessment), outcome: severe Covid-19 disease, subgroup analysis: (crude vs adjusted)



Candidate variable: Bilateral compromise (CT assesment), outcome: severe Covid-19 disease



Candidate variable: High APACHE score (more than 8), outcome: severe Covid-19 disease



Candidate variable: High SOFA score (more than 2), outcome: severe Covid-19 disease

