

Supplementary index

Table 1 Search Strategy for studies

	Database	Platform	Data coverage	Date of search	Search term	# of results
1	Pubmed.gov	MEDLINE	ALL dates	7/8/2022	(((("Non-alcoholic Fatty Liver Disease"[Mesh]) OR "Fatty Liver"[Mesh] OR "Metabolic Syndrome"[Mesh]) AND ("COVID-19"[Mesh] OR "SARS-CoV-2"[Mesh])) "liver stiffness" and "covid"	193
						7
2	Web of science		ALL	7/8/2022	Fatty liver AND COVID	142
					Metabolic syndrome and COVID	110
					MAFLD AND COVID	28
					Liver stiffness and COVID	7
3	Embase		ALL	7/9/2022	('fatty liver':ti,ab,kw OR 'nonalcoholic fatty liver':ti,ab,kw OR 'metabolic fatty liver':ti,ab,kw) AND (covid:ti,ab,kw OR 'coronavirus disease 2019':ti,ab,kw)	247
					('fibrosis-4 index':ti,ab,kw OR	

			'nonalcoholic steatohepatitis':ti,ab,kw) AND (covid:ti,ab,kw OR 'coronavirus disease 2019':ti,ab,kw)	
			'liver stiffness':ti,ab,kw AND 'coronavirus disease 2019':ti,ab,kw	35
				5
4	Science direct	7/9/202 2	("Fatty liver" OR "non alcoholic fatty liver disease") and ("covid- 19" OR covid OR "Sars co v 2") Only research articles filtered	308 Since 2019 Only researc h articles and mini reviews
5	Cochrane	7/9/202 2	"Fatty liver" AND "Corona Virus " metabolic syndrome AND "Corona Virus " Liver stiffness and COVID	Trials 0 Reviews s 1 trials 0 reviews 1 trials 0 reviews 0

Table 2 Quality assessment of the studies included based on the NIH (National Institutes of Health) quality appraisal tool for Case-control studies

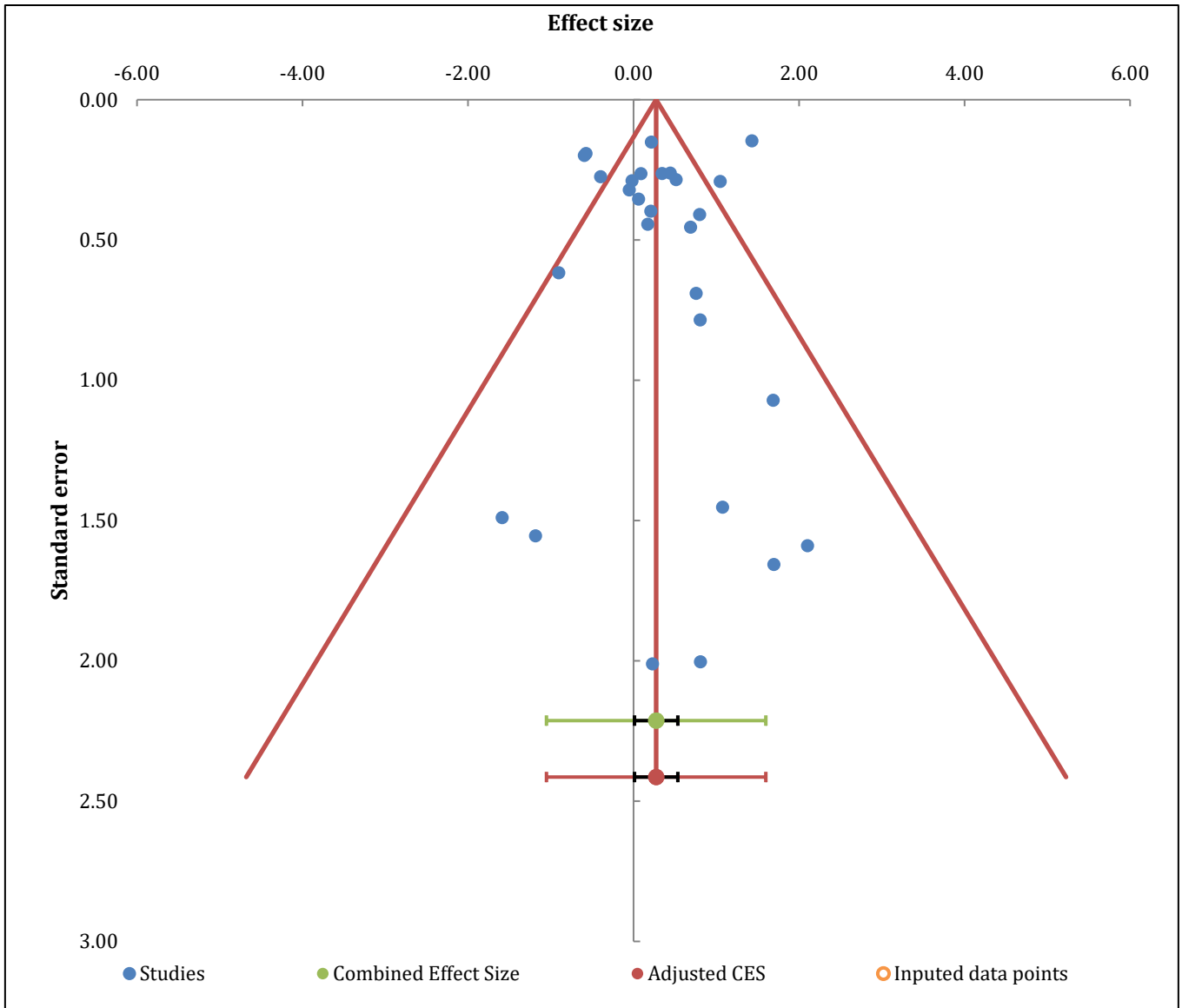
Author, years	Was the research question or objective in this paper clearly stated and appropriate	Was the study population clearly specified and defined	Did the authors include a sample size justification	Were controls selected or recruited from the same or similar population that gave rise to the cases (including the same timeframe)	Were the definitions, inclusion and exclusion criteria, algorithms or processes used to identify or select cases and controls valid, reliable, and implemented consistently across all study participants	Were the cases clearly defined and differentiated from controls	If less than 100 percent of eligible cases and/or controls were selected for the study, were the cases and/or controls randomly selected from those eligible	Was there use of concurrent controls	Were the investigators able to confirm that the exposure/risk occurred prior to the development of the condition or event that defined a participant as a case	Were the measures of exposure/risk clearly defined, valid, reliable, and implemented consistently across all study participants	Were the assessors of exposure/risk blinded to the case or control status of participants	Were key potential confounding variables measured and adjusted statistically in the analyses. If matching was used, did the investigators account for matching during study analysis
Çoraplı,2021,Turkey	✓	✓	✗	✓	✓	✓	✗	✗	✓	✓	✗	✗
Madan,2022,India	✓	✓	✓	✓	✓	✓	✗	✗	✓	✓	✗	✗
Trivedi,2021,USA	✓	✓	✗	✓	✓	✓	✓	✗	✓	✓	✗	✓
Vazquez-Medina,2022, Mexico	✓	✓	✗	✓	✓	✓	✗	✗	✓	✓	✗	✓

Table 3 Quality assessment of the studies included based on the NIH (National Institutes of Health) quality appraisal tool for Observational Cohort and cross-sectional studies

Author, years	Was the research question clearly stated	Was the study population clearly specified and defined	Was participation rate of eligible person at least 50%	Were all the subjects selected or recruited from the same or similar populations	Was a sample size justification, power description, or variance and effect estimates provided	Were the exposure (s) of interest measured prior to the outcome(s) being measured	Was the timeframe sufficient so that one could reasonably expect to see an association between exposure and outcome	Did the study examine different levels of the exposure as related to the outcome	Were the exposure measures clearly defined, valid, reliable, and implemented consistently across all study participants	Was the exposure (s) assessed more than once over time	Were the outcome measures clearly defined, valid, reliable, and implemented consistently across all study participants	Were the outcome assessors blinded to the exposure status of participants	Was loss to follow-up after baseline 20% or less	Were key potential confounding variables measured and adjusted statistically for their impact on the relationship between exposure (s) and outcome(s)
Calapod,2021,Romania	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✗	✓	✓	
Campos,2021, Spain	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✗	✓	✗	
Chang,2022,South Korea	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✗	✗	✓	
Chen,2020,USA	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	✗	✓	✗	
Davidov-Derevynko,2021,Israel	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	✗	✓	✗	
Demir,2022,Turkey	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	✗	✓	✗	
Dong Ji,2020,China	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓	✗	
Effenberger,2020,Austria	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	✗	✓	✗	
Efeki,2021,USA	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✗	✓	✓	
Forlano,2020,UK	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✗	✓	✓	
Hashemi,2020,USA	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	✗	✗	✓	
Huang,2020,China	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓	✓	
Hussain,2021,Pakistan*	✓	✓	✓	✓	✗	✓	✗	✗	✓	✓	✗	✓	✗	
Kim,2021,USA	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	
Marjot,2022,USA	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	✓	✓	✓	
Mushtaq,2021,Qatar	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	✗	✗	✓	
Mario Romero-Cristobal,2021, Spain	✓	✗	✓	✓	✗	✓	✓	✗	✓	✓	✗	✓	✓	
Rentsch,2020,USA	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✗	✗	✓	
Shao,2021,China	✗	✓	✓	✓	✗	✓	✓	✗	✗	✓	✗	✓	✗	
Targher,2020,China	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	✗	✗	✓	
Tihnanelli,2021,USA	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	✗	✗	✓	
Velazquez,2022,Mexico	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	✗	✓	✗	
Vrsaljko,2022,Republic of Croatia	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✗	✗	✗	
Wang,2021,China	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	✗	✓	✓	
Yao,2021,China	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	✗	✓	✓	
Yoo,2021,South Korea	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	✗	✓	✓	
Younossi,2021,USA	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	✗	✓	✓	
Zhou,2020,China	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	

*Cross-sectional study design

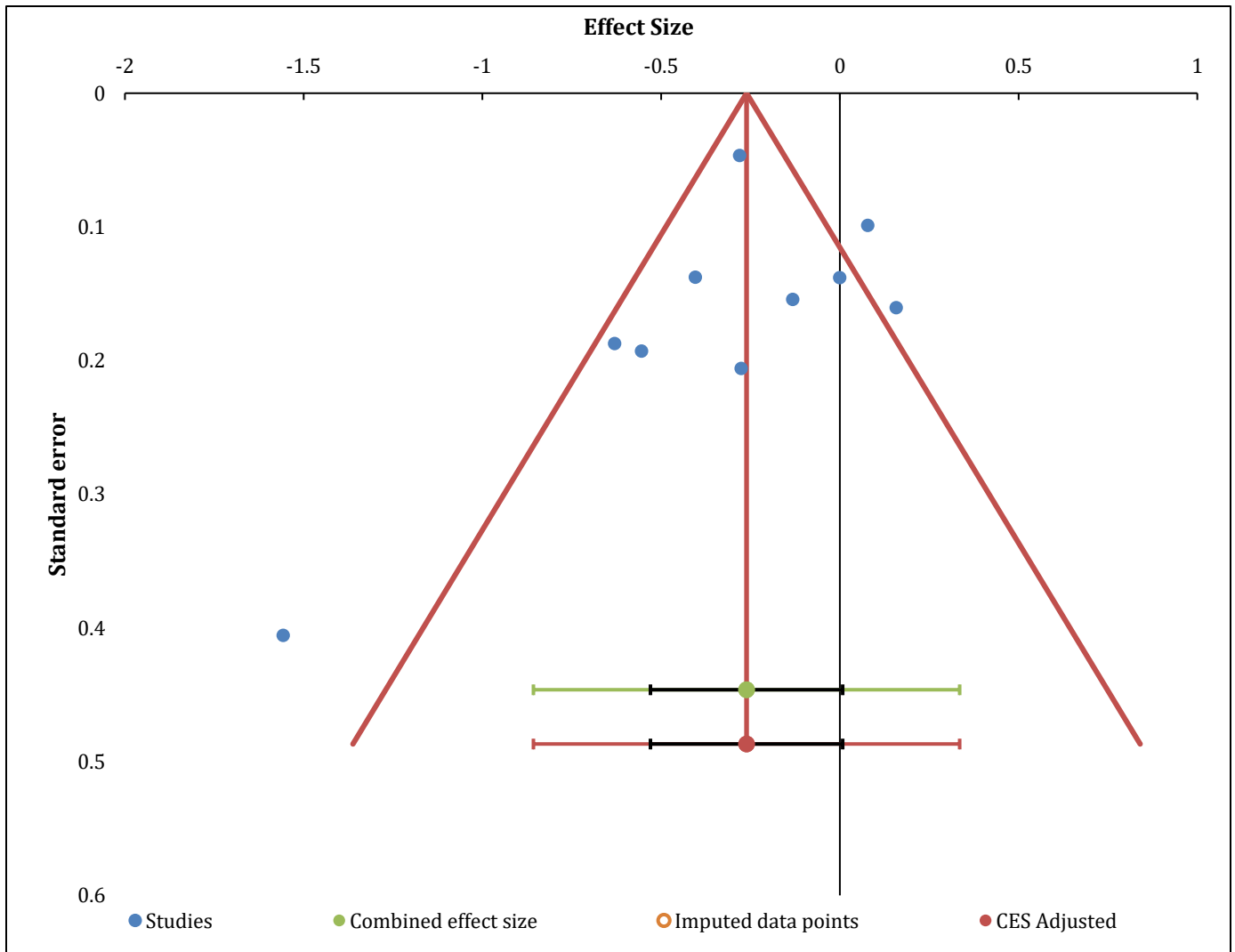
Figure 1 Funnel plot and Egger's test showing publication bias for mortality Meta-analysis.



Egger Regression				
	Estimate	SE	CI LL	CI UL
Intercept	0.37	0.50	-0.65	1.39
Slope	-0.02	0.41	-0.86	0.83

t test	0.74
p-value	0.466

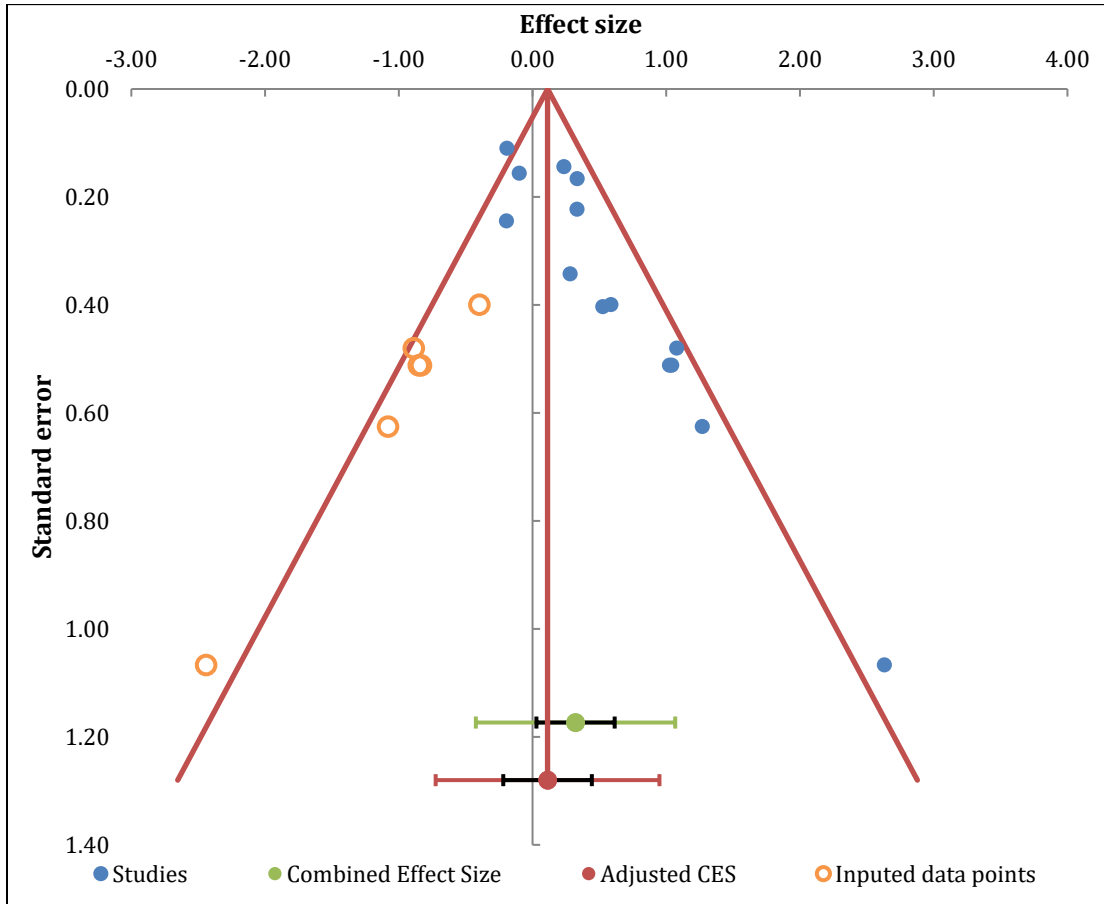
Figure 2 Funnel plot and Egger's test showing publication bias for hospital length of stay meta-analysis.



Egger Regression				
	Estimate	Standard error	CI LL	CI UL
Intercept	-6.23	1.96	-	-1.79
Slope	1.51	0.56	0.23	2.78

t test	-3.17
p-value	0.013

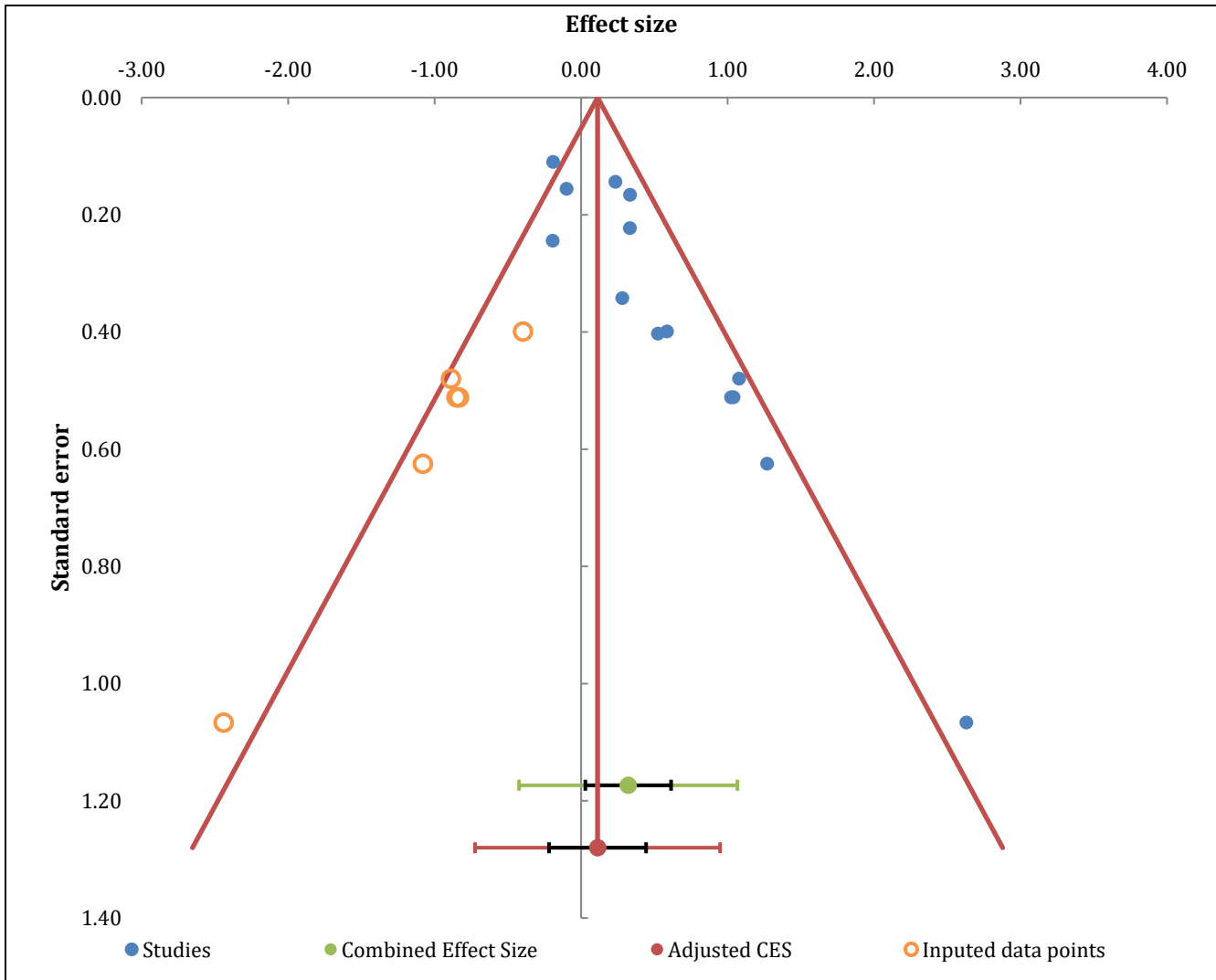
Figure 3 Funnel plot and Egger's test showing publication Bias for Need for Hospital Admission Meta-analysis



Egger Regression				
	Estimate	SE	CI LL	CI UL
Intercept	-15.06	9.50	-45.28	15.17
Slope	9.10	5.28	-7.70	25.91

t test	-1.59
p-value	0.254

Figure 4 Funnel plot and Egger's test showing publication Bias for Need for Supplemental Oxygen requirement Meta-analysis.



Egger Regression				
	Estimate	SE	CI LL	CI UL
Intercept	9.39	11.49	-27.17	45.94
Slope	-4.78	6.52	-25.54	15.98

t test	0.82
p-value	0.500