

Supplementary materials

Outcome of In-Hospital Cardiac Arrest in COVID-19 Patient: A Systematic Review and Meta-Analysis

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Supplementary Material S1. COVID-19 IHCA search details

PubMed

Search: ((COVID-19) OR (Coronavirus disease) OR (SARS-CoV-2) OR (severe acute respiratory syndrome coronavirus 2)) AND ((In-hospital Cardiac Arrest) OR IHCA)

Hits: 541

Link: <https://pubmed.ncbi.nlm.nih.gov/?term=%28%28COVID-19%29+OR+%28Coronavirus+disease%29+OR+%28SARS-CoV-2%29+OR+%28severe+acute+respiratory+syndrome+coronavirus+2%29%29+AND+%28%28In-hospital+Cardiac+Arrest%29+OR+IHCA%29&filter=years.2019-2022&sort=date>

Embase

Search: ('covid 19'/exp OR 'covid 19' OR 'coronavirus disease' OR (('coronavirus'/exp OR coronavirus) AND ('disease'/exp OR disease)) OR 'sars cov 2'/exp OR 'sars cov 2' OR 'severe acute respiratory syndrome coronavirus 2'/exp OR 'severe acute respiratory syndrome coronavirus 2' OR (severe AND acute AND ('respiratory'/exp OR respiratory) AND ('syndrome'/exp OR syndrome) AND ('coronavirus'/exp OR coronavirus) AND ('2'/exp OR 2))) AND ('in-hospital cardiac arrest' OR ('in hospital' AND ('cardiac'/exp OR cardiac) AND ('arrest'/exp OR arrest)) OR ihca)

Hits: 183

Link:

<https://www.embase.com/#advancedSearch/resultspage/history.1/page.1/25.items/orderby.date/source>.

Scopus

Search: TITLE-ABS-KEY (((covid-19) OR (coronavirus AND disease) OR (sars-cov-2) OR (severe AND acute AND respiratory AND syndrome AND coronavirus 2)) AND ((in-hospital AND cardiac AND arrest) OR ihca))

Hits: 127

Link: https://www.scopus.com/results/results.uri?sort=plf-f&src=s&st1=%28%28COVID-19%29+OR+%28Coronavirus+disease%29+OR+%28SARS-CoV-2%29+OR+%28severe+acute+respiratory+syndrome+coronavirus+2%29%29+AND+%28%28In-hospital+Cardiac+Arrest%29+OR+IHCA%29&sid=6b128330d5732d9dc9c89dd7a6f2f8e3&sot=b&sdt=b&sl=164&s=TITLE-ABS-KEY%28%28%28COVID-19%29+OR+%28Coronavirus+disease%29+OR+%28SARS-CoV-2%29+OR+%28severe+acute+respiratory+syndrome+coronavirus+2%29%29+AND+%28%28In-hospital+Cardiac+Arrest%29+OR+IHCA%29%29&origin=searchbasic&editSaveSearch=&yearFrom=Before+1960&yearTo=Present&featureToggles=FEATURE_EXPORT_REDESIGN:0

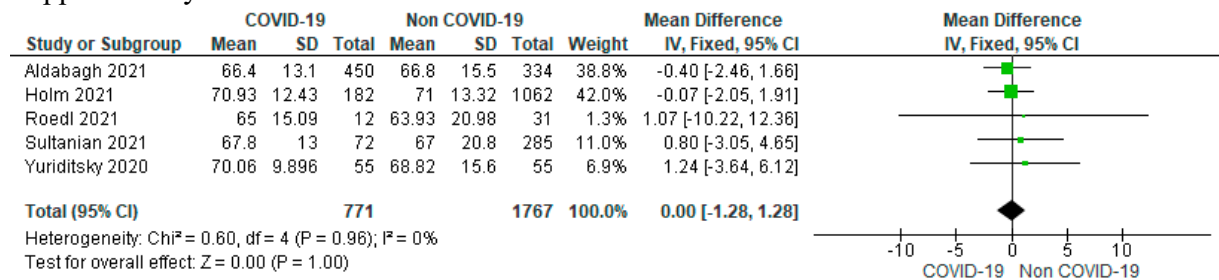
Cochrane library

Search: ((COVID-19) OR (Coronavirus disease) OR (SARS-CoV-2) OR (severe acute respiratory syndrome coronavirus 2)) AND ((In-hospital Cardiac Arrest) OR IHCA)

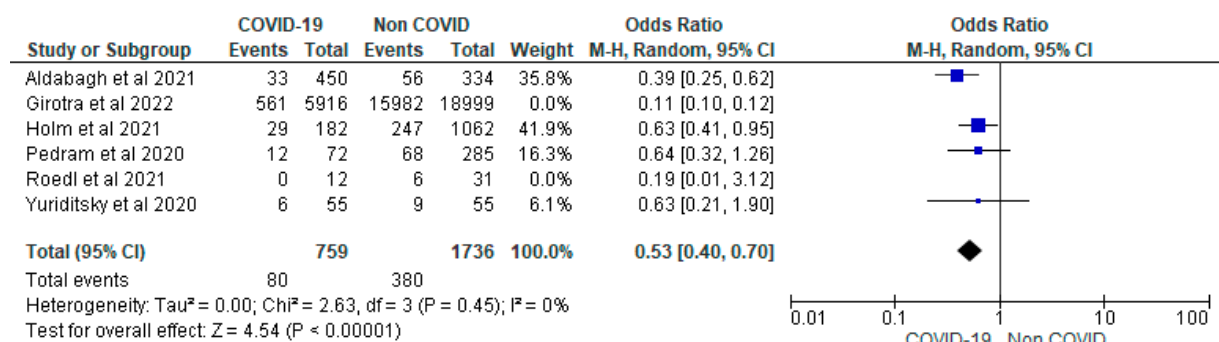
Hits: 4

Link: <https://www.cochranelibrary.com/advanced-search>

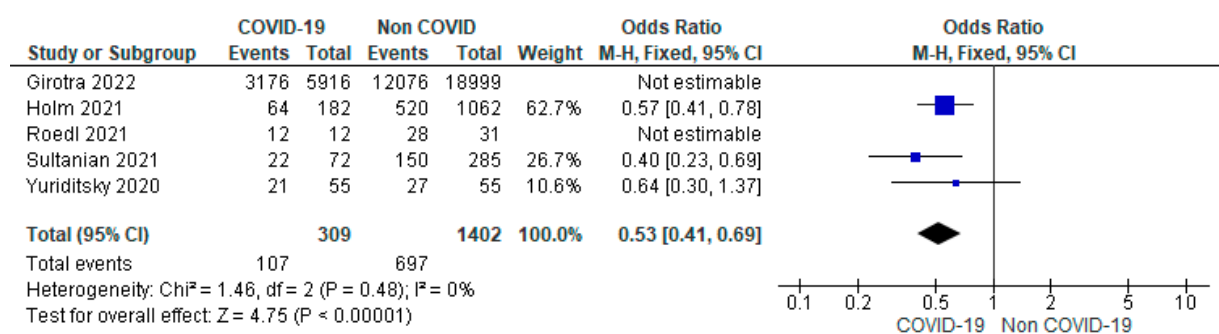
Supplementary Material S2



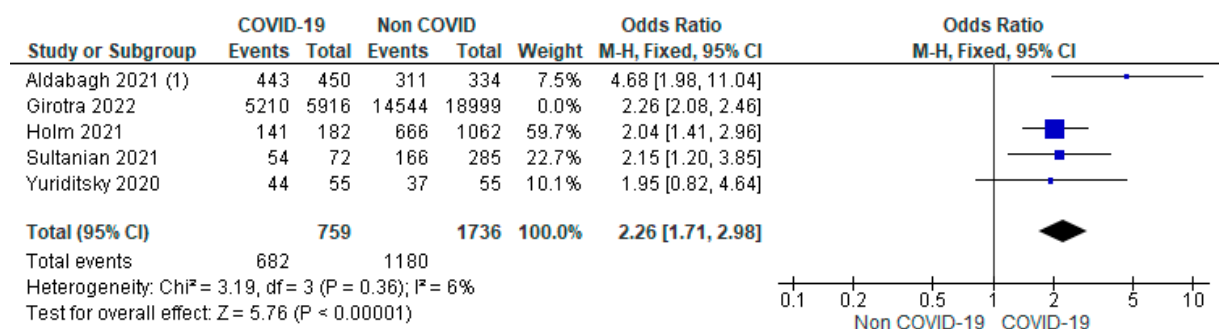
Supplementary material S2; Figure S1. Mean differences of age among patients across 5 studies between COVID-19 and non-COVID-19 patients using fixed effect model



Supplementary material S2; Figure S2. Forest plot showing group difference for shockable rhythm among COVID-19 versus non-COVID-19 patient using fixed effect after excluding the outlier studies (Girotra *et al.*, Roedl *et al.*)



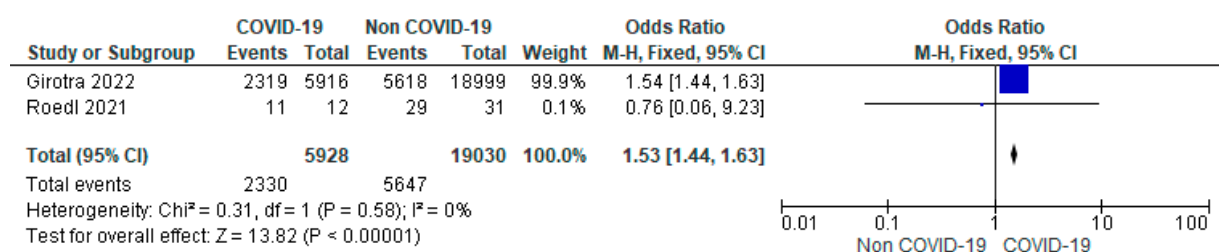
Supplementary material S2; Figure S3. Forest plot showing group differences for ROSC among COVID-19 versus non-COVID-19 patient using fixed effect model after removing outlier studies. (Girotra *et al.* and Roedl *et al.*)



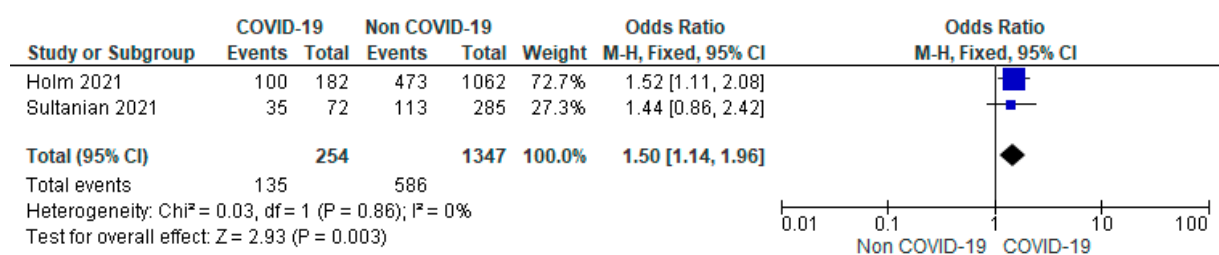
Footnotes

(1) In-hospital mortality (Aldabagh 2021 and Girotra 2022)

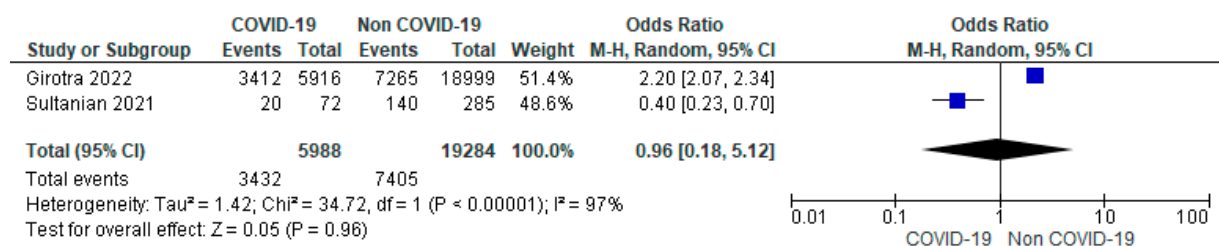
Supplementary material S2: Figure S4. Excluding Girotra *et al* for 30-day mortality among COVID-19 versus non-COVID-19 patient using fixed effect model



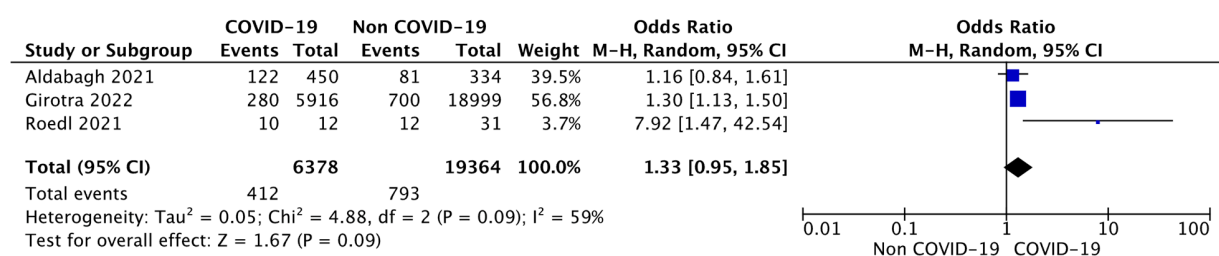
Supplementary material S2: Figure S5. Forest plot showing group differences on vasopressor use among COVID-19 versus non-COVID-19 patient using fixed effect model



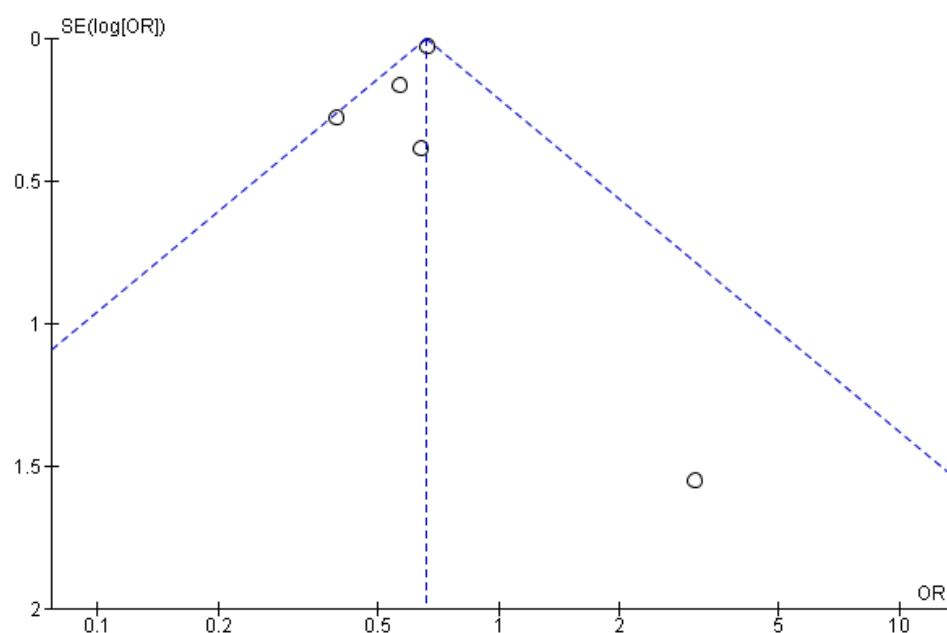
Supplementary material S2: Figure S6. Forest plot showing group differences on intubation among COVID-19 versus non-COVID-19 patient using fixed effect model



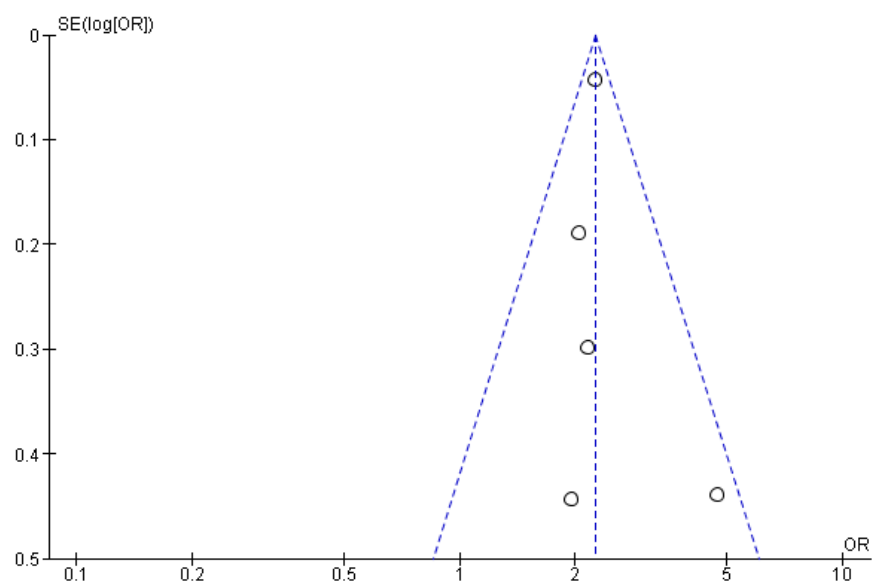
Supplementary material S2: Figure S7. Forest plot showing group difference on Mechanical Ventilation among COVID-19 versus non COVID-19 patient using Random effect model.



Supplementary material S2: Figure S8. Forest plot showing group difference on Renal Replacement Therapy among COVID-19 Versus non COVID-19 patient using Random effect model.



Supplementary material S2, Figure S9. Funnel plot showing publication bias for ROSC



Supplementary material S2, Figure S10. Funnel plot showing publication bias for 30-day mortality

Supplementary Material S3. **MOOSE Checklist for Meta-analyses of Observational Studies**

Item No	Recommendation	Reported on Page No
Reporting of background should include		
1	Problem definition	5
2	Hypothesis statement	-
3	Description of study outcome(s)	6
4	Type of exposure or intervention used	6
5	Type of study designs used	5
6	Study population	6
Reporting of search strategy should include		
7	Qualifications of searchers (eg, librarians and investigators)	1
8	Search strategy, including time period included in the synthesis and key words	6, online supplementary material 1
9	Effort to include all available studies, including contact with authors	6
10	Databases and registries searched	6
11	Search software used, name and version, including special features used (eg, explosion)	6
12	Use of hand searching (eg, reference lists of obtained articles)	-
13	List of citations located and those excluded, including justification	8-9
14	Method of addressing articles published in languages other than English	7
15	Method of handling abstracts and unpublished studies	8-9
16	Description of any contact with authors	-
Reporting of methods should include		
17	Description of relevance or appropriateness of studies assembled for assessing the hypothesis to be tested	7
18	Rationale for the selection and coding of data (eg, sound clinical principles or convenience)	7-8
19	Documentation of how data were classified and coded (eg, multiple raters, blinding and interrater reliability)	7-8
20	Assessment of confounding (eg, comparability of cases and controls in studies where appropriate)	7, supplementary material 2
21	Assessment of study quality, including blinding of quality assessors, stratification or regression on possible predictors of study results	7
22	Assessment of heterogeneity	7
23	Description of statistical methods (eg, complete description of fixed or random effects models, justification of whether the chosen models account for predictors of study results, dose-response models, or cumulative meta-analysis) in sufficient detail to be replicated	7-8

24	Provision of appropriate tables and graphics	10-16 supplementary materials
Reporting of results should include		
25	Graphic summarizing individual study estimates and overall estimate	Fig 2-3, supplementary material
26	Table giving descriptive information for each study included	Table 1 and 2
27	Results of sensitivity testing (eg, subgroup analysis)	10 – 16, Figs 2-3, supplementary material
28	Indication of statistical uncertainty of findings	-

Item No	Recommendation	Reported on Page No
Reporting of discussion should include		
29	Quantitative assessment of bias (eg, publication bias)	7, Table 1 in supplementary file
30	Justification for exclusion (eg, exclusion of non-English language citations)	7
31	Assessment of quality of included studies	7
Reporting of conclusions should include		
32	Consideration of alternative explanations for observed results	17-20
33	Generalization of the conclusions (ie, appropriate for the data presented and within the domain of the literature review)	19-20
34	Guidelines for future research	20
35	Disclosure of funding source	20

From: Stroup DF, Berlin JA, Morton SC, et al, for the Meta-analysis Of Observational Studies in Epidemiology (MOOSE) Group. Meta-analysis of Observational Studies in Epidemiology. A Proposal for Reporting. *JAMA*. 2000;283(15):2008-2012. doi: 10.1001/jama.283.15.2008.