Appendix 1: Search Strategies

1.1 Search Strategy COVID-19 Emergency Department Visits

Embase Classic+Embase <1947 to 2021 June 22>
Ovid MEDLINE(R) ALL <1946 to June 22, 2021>

1   COVID-19/
2   (exp coronavirus/ or coronavirus*.mp. or corona virus*.mp.) and (wuhan or beijing or shanghai or hubei).mp.
3   ((coronavirus* or corona virus* or coronavirus* or coronaviridae or coronaviridae or betacoronavirus*) adj3 ("19" or "2019")).tw.
4   covid.tw,kw.
5   covid19.tw,kw. or covid 19.kw.
6   sars cov 2.tw,kw.
7   (ncov or n cov).tw,kw.
8   (novel coronavirus* or novel corona virus*).tw,kw.
9   (CoV 2 or CoV2 or sarscov2 or 2019nCoV or novel CoV or wuhan virus*).tw,kw.
10   (Coronavirus Infections/ or Severe Acute Respiratory Syndrome/) and (Pandemics/ or pandemic*.tw,kf.)
11   or/1-
12   exp Emergency Service, Hospital/
13   emergency department*.tw,kf.
14   (emergency room* or emergency visit* or ed visit*).tw,kf. or emergenc*.ti.
15   or/12-14
16   11 and 15
17   infant/ or infant, newborn/
18   (infant* or baby or babies or neonat* or newborn*).tw,kf.
19   17 or 18
20   16 and 19
21   20 use medall Medline
22   coronavirus disease 2019/
23   (Coronavirinae/ or coronavirus*.mp. or corona virus*.mp.) and (wuhan or beijing or shanghai or hubei).mp.
24   ((coronavirus* or corona virus* or coronavirus* or coronaviridae or coronaviridae or betacoronavirus*) adj3 ("19" or "2019")).tw.
25   (covid or covid19).tw.
26   sars cov 2.tw.
27   (ncov or n cov).tw.
28   (novel coronavirus* or novel corona virus*).tw.
29   (CoV 2 or CoV2 or sarscov2 or 2019nCoV or novel CoV or wuhan virus).tw.
30   (coronavirus infection/ or severe acute respiratory syndrome/) and (pandemic/ or pandemic*.tw.)
31   limit 30 to yr="2019 -Current"
32   or/22-29,31
33   exp infant/

34   (infant* or baby or babies or neonat* or newborn*).tw.
35   33 or 34
36   32 and 35
37   emergency ward/
38   emergency department*.tw.
39   (emergency room* or emergency visit* or ed visit*).tw. or emergenc*.ti.
40   emergency health service/
41   or/37-40
42   36 and 41
43   42 use emczd Embase
44   21 or 43
45   remove duplicates from 44
46   45 use medall
47   45 use emczd

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7
#6 AND #5
Indexes=SCI-EXPANDED, CPCI-S, ESCI Timespan=1900-2021

6
TOPIC:
(infant* or baby or babies or neonat* or newborn*)
Indexes=SCI-EXPANDED, CPCI-S, ESCI Timespan=1900-2021

5
#4 AND #3
Indexes=SCI-EXPANDED, CPCI-S, ESCI Timespan=1900-2021

# 4
TS=(emergency room* or emergency visit* or ed visit* or emergency department*) OR
TI=(emergenc*)
OR TS=(emergency service*)
Indexes=SCI-EXPANDED, CPCI-S, ESCI Timespan=1900-2021

3
#2 OR #1
Indexes=SCI-EXPANDED, CPCI-S, ESCI Timespan=1900-2021

2
TOPIC: (sars cov 2 OR sars cov2) OR TOPIC: (ncov or n cov)
OR TOPIC: (novel coronavirus or novel corona virus)
Indexes=SCI-EXPANDED, CPCI-S, ESCI Timespan=1900-2021

1
TOPIC: (covid OR covid19 or covid2019)

Indexes=SCI-EXPANDED, CPCI-S, ESCI Timespan=1900-2021

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Wednesday, June 23, 2021 6:25:31 PM

#	Query
S1	(MH "COVID-19")
S2	(MH "COVID-19 Pandemic")
S3	(MH "SARS-CoV-2")
S4	TI covid* OR AB covid* OR TI sars cov 2 OR AB sars cov 2 OR TI novel coronavirus OR AB novel coronavirus OR TI wuhan virus OR AB wuhan virus OR TI 2019nCoV OR AB 2019nCoV
S5	TI (CoV 2 or CoV2 or sarscov2) OR AB (CoV 2 or CoV2 or sarscov2)
S6	S1 OR S2 OR S3 OR S4 OR S5
S7	(MH "Emergency Service+")
S8	emergency department*
S9	(emergency room* or emergency visit* or ed visit*)
S10	TI emergenc*
S11	(MH "Emergency Medical Services")
S12	(S7 OR S8 OR S9 OR S10 OR S11)
S13	(S6 AND S12)
S14	(MH "Infant+")
S15	TI ((infant* or baby or babies or neonat* or newborn*)) OR AB ((infant* or baby or babies or neonat* or newborn*))
S16	S14 OR S15
S17	(S13 AND S16)

1.2 Search Strategy COVID-19 Neonatal Mortality

Embase Classic+Embase <1947 to 2021 June 22>
Ovid MEDLINE(R) ALL <1946 to June 22, 2021>

1   COVID-19/
2   (exp coronavirus/ or coronavirus*.mp. or corona virus*.mp.) and (wuhan or beijing or shanghai or hubei).mp.
3   ((coronavirus* or corona virus* or coronavirus* or coronaviridae or coronaviridae or betacoronavirus*) adj3 ("19" or "2019")).tw.
4   covid.tw,kw.
5   covid19.tw,kw. or covid 19.kw.
6   sars cov 2.tw,kw.
7   (ncov or n cov).tw,kw.
8   (novel coronavirus* or novel corona virus*).tw,kw.
9   (CoV 2 or CoV2 or sarscov2 or 2019nCoV or novel CoV or wuhan virus*).tw,kw.
10   (Coronavirus Infections/ or Severe Acute Respiratory Syndrome/) and (Pandemics/ or pandemic*.tw,kf.)
11   or/1
12   exp Infant Mortality/
13   exp infant death/ or perinatal death/
14   ((infant* or baby or babies or neonat* or newborn* or perinat*) adj3 (death* or mortalit*)).tw,kf.
15   12 or 13 or 14
16   11 and 15
17   16 use medall Medline
18   coronavirus disease 2019/
19   (Coronavirinae/ or coronavirus*.mp. or corona virus*.mp.) and (wuhan or beijing or shanghai or hubei).mp.
20   ((coronavirus* or corona virus* or coronavirus* or coronaviridae or coronaviridae or betacoronavirus*) adj3 ("19" or "2019")).tw.
21   (covid or covid19).tw.
22   sars cov 2.tw.
23   (ncov or n cov).tw.
24   (novel coronavirus* or novel corona virus*).tw.
25   (CoV 2 or CoV2 or sarscov2 or 2019nCoV or novel CoV or wuhan virus).tw.
26   (coronavirus infection/ or severe acute respiratory syndrome/) and (pandemic/ or pandemic*.tw.)
27   limit 26 to yr="2019 -Current"
28   or/18-25,27
29   infant mortality/
30   newborn mortality/
31   perinatal mortality/
32   perinatal death/
33   ((infant* or baby or babies or neonat* or newborn*) adj2 (death* or mortalit*)).tw.

34   or/29-33
35   28 and 34
36   35 use emczd   Embase
37   17 or 36
38   remove duplicates from 37
39   38 use medall
40   38 use emczd

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5 #4 AND #3
Indexes=SCI-EXPANDED, CPCI-S, ESCI Timespan=1900-2021

4 **TOPIC:** ((infant* or baby or babies or neonat* or newborn*) NEAR/5 (death* or mortalit*))
Indexes=SCI-EXPANDED, CPCI-S, ESCI Timespan=1900-2021

3 #2 OR #1
Indexes=SCI-EXPANDED, CPCI-S, ESCI Timespan=1900-2021

2 **TOPIC:** (sars cov 2 OR sars cov2) *OR* **TOPIC:** (ncov or n cov) *OR* **TOPIC:** (novel coronavirus or novel corona virus)
Indexes=SCI-EXPANDED, CPCI-S, ESCI Timespan=1900-2021

1 **TOPIC:** (covid OR covid19 or covid2019)
Indexes=SCI-EXPANDED, CPCI-S, ESCI Timespan=1900-2021

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#	Query
S1	(MH "COVID-19")
S2	(MH "COVID-19 Pandemic")
S3	(MH "SARS-CoV-2")
S4	TI covid* OR AB covid* OR TI sars cov 2 OR AB sars cov 2 OR TI novel coronavirus OR AB novel coronavirus OR TI wuhan virus OR AB wuhan virus OR TI 2019nCoV OR AB 2019nCoV
S5	TI (CoV 2 or CoV2 or sarscov2) OR AB (CoV 2 or CoV2 or sarscov2)
S6	S1 OR S2 OR S3 OR S4 OR S5
S7	(MH "Infant Mortality")

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S8	(MH "Infant Death")
S9	(MH "Perinatal Death")
S10	TI (((infant* or baby or babies or neonat* or newborn* or perinat*) N3 (death* or mortalit*))) OR AB (((infant* or baby or babies or neonat* or newborn* or perinat*) N3 (death* or mortalit*)))
S11	(S7 OR S8 OR S9 OR S10)
S12	S6 AND S11

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Appendix 2: Data Charting Form

Data charting framework

Main category	Subcategory	Description
Titles		
Authors		
Year of publication		
Study Journal		
Study Citation Details		
Study objective(s)		Describe the stated objectives of the studies included in the review
Study Design		Specify the types of studies included in the review
Study Setting		Specify the geographical areas covered by the studies included in the review Specify the level of medical facility in each study included in the review
Study Population/Sample size		Describe the study population and specify the number of participants included in each study
Eligibility Criteria		Specify the inclusion and exclusion criteria of each study included in the review
Study period		Specify the time period of data collection of each studies included in the review Specify the stage/wave of the pandemic during which each included study was conducted
Reported primary outcomes (neonates <28 days and infants <1 year-old)	Frequency of ED visits	Specify the frequency of ED visits before and during the COVID-19 pandemic
	Main Reason(s) for ED visits	Describe the main reasons for ED visits before and during the COVID-19 pandemic
Reported secondary outcomes (neonates <28 days and infants <1 year-old)	Change in mortality	Specify if there was an increase or decrease of neonatal/infant mortality during the COVID-19 pandemic compared to pre-pandemic
	Causes of mortality	Describe the main causes of mortality before and during the COVID-19 pandemic
	ED visit length	Specify the ED visit length (in hours) during the COVID-19 pandemic compared to pre-pandemic
	NICU/PICU/HDU admission	Specify the NICU/PICU/HDU admission rate before and during the COVID-19 pandemic
	Reasons for NICU/PICU/HDU admission	Describe the main reasons for NICU/PICU/HDU admission before and during the COVID-19 pandemic

	NICU/PICU/HDU length of stay	Specify the NICU/PICU/HDU length of stay (in days) during the COVID-19 pandemic compared to pre-pandemic
	Infant hospitalization	Specify the infant hospitalization rate before and during the COVID-19 pandemic
	Reasons for infant hospitalization	Describe the main reasons of infant hospitalization before and during the COVID-19 pandemic