

Appendix 1: Search strategies

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1 DATABASE SEARCH STRATEGIES

Rapid Review of Zinc for the Prevention or Treatment of COVID-19 and Other Coronavirus-related Respiratory Tract Infections in Humans

1.1 Initial Searches, April-June 2020

1.1.1 Main Databases

Database: PubMed

Searched: 8 May 2020

Results: n=546

Search:

(Coronaviridae[mh] OR Coronavir* OR nCov OR covid OR Coronaviridae Infections[mh] OR Middle East Respiratory Syndrome Coronavirus[mh] OR "Middle East Respiratory Syndrome" OR MERS OR "Severe Acute Respiratory Syndrome" OR "Severe acute respiratory syndrome-related coronavirus"

OR "Severe Acute Respiratory failure" OR "Acute febrile respiratory syndrome" OR SARS OR Respiratory Tract Infections[mh] OR "Lower respiratory infection" OR "viral respiratory" OR pneumonia OR "flu -like illness" OR bronchitis OR "Common cold" OR Rhinitis OR laryngitis OR "Respiratory Infections" OR "Infections, respiratory" OR "Infections, Respiratory Tract" OR "Infections, Upper Respiratory" OR "Upper Respiratory Tract" OR "Infections, Lower Respiratory Infections" OR "Lower Respiratory Infections" OR "Lung Inflammation" OR "Lobar Pneumonia" OR "Lobar Pneumonitis" OR "Pulmonary Inflammation")

AND

(Zinc[mh] OR zinc OR zn)

AND

(randomized controlled trial[pt] OR controlled clinical trial [pt] OR randomized [tiab] OR placebo [tiab] OR drug therapy [sh] OR randomly [tiab] OR trial [tiab] OR groups [tiab]) NOT (animals [mh] NOT humans [mh])

Database: Embase (via Ovid)

Searched: 29 April 2020

Results: n=268

Search:

- 1) (exp Coronaviridae/ OR exp Coronaviridae infection/ OR exp Middle East respiratory syndrome coronavirus/ OR exp respiratory tract infection/ OR (Coronavir* OR nCov OR covid OR "Middle East Respiratory Syndrome" OR MERS OR "Severe Acute Respiratory Syndrome" OR "Severe acute respiratory syndrome-related coronavirus" OR "Severe Acute Respiratory failure" OR "Acute febrile respiratory syndrome" OR SARS OR "Lower respiratory infection*" OR "viral respiratory" OR pneumonia OR "flu-like illness" OR bronchitis OR "Common cold" OR Rhinitis OR laryngitis OR "Respiratory Infection*" OR "Respiratory Tract Infection*" OR "Upper Respiratory Infection*" OR "Upper Respiratory Tract" OR "Lung Inflammation" OR "Lobar Pneumonia" OR "Lobar Pneumonitis" OR "Pulmonary Inflammation").ti,ab,kw.)
- 2) (exp zinc/ OR (zinc OR zn).ti,ab,kw.)
- 3) (exp dietary supplement/ OR (supplement* OR deficiency OR additive* OR vitamin*).ti,ab,kw.)
- 4) 2 AND 3
- 5) (crossover-procedure/ OR double-blind procedure/ OR randomized controlled trial/ OR single-blind procedure/ OR (random* OR factorial* OR crossover* OR cross over* OR placebo* OR (doubl* adj blind*) OR (singl* adj blind*) OR assign* OR allocat* OR volunteer*).tw.
- 6) 1 AND 4 AND 5

Database: EBSCOhost (Academic Search Complete, Allied and Complementary Medicine Database(AMED), Alt HealthWatch, CINAHL Plus with Full Text, Health Source and PsycINFO)

Searched: 27 April 2020

Results: n=231

Search:

Coronaviridae OR Coronavir* OR nCov OR covid OR Coronaviridae Infections OR Middle East Respiratory Syndrome Coronavirus OR "Middle East Respiratory Syndrome" OR MERS OR "Severe Acute Respiratory Syndrome" OR "Severe acute respiratory syndrome-related coronavirus" OR "Severe Acute Respiratory failure" OR "Acute febrile respiratory syndrome" OR SARS OR Respiratory Tract Infections[mh] OR "Lower respiratory infection" OR "viral respiratory" OR pneumonia OR "flu-like illness" OR bronchitis OR "Common cold" OR Rhinitis OR laryngitis OR "Respiratory Infections" OR "Infections, respiratory" OR "Infections, Respiratory Tract" OR "Infections, Upper Respiratory" OR "Upper Respiratory Tract" OR "Infections, Lower Respiratory Infections" OR "Lower Respiratory Infections" OR "Lung Inflammation" OR "Lobar Pneumonia" OR "Lobar Pneumonitis" OR "Pulmonary Inflammation"

AND

Zinc OR zinc OR zn OR dietary supplements OR supplement* OR deficiency OR additive* OR vitamin*

AND

Randomi*ed controlled trial OR controlled clinical trial OR randomi*ed OR placebo OR drug therapy OR randomly OR trial OR groups OR "comparative effectiveness" NOT animals

Database: CKNI (Chinese Knowledge Database)

Searched: 24 April 2020

Results: n=193

Search:

1. SU=新型冠状病毒(Xinxing Guanzhuang Bingdu, Coronavirus) OR 新冠病毒(Xinguan Bingdu, COVID-19 or SARS-Cov-2 or 2019-nCov) OR 新型冠状病毒肺炎(Xinxing Guanzhuang Bingdu Feiyan, Coronavirus pneumonia) OR 新冠肺炎(Xinguan Feiyan, Coronavirus pneumonia) OR SARS-CoV OR SARS OR MERS OR MERS-CoV OR 中东呼吸道综合征(Zhongdong Huxidao Zonghezhen, MERS OR MERS-CoV) OR 呼吸道感染(Huxidao Ganran, Respiratory Infections) OR 肺部感染(Feibu Ganran, Lung Inflammation) OR 肺炎(Feiyan, Pneumonia) OR 肺部炎症(Feibu Yanzheng, Pulmonary Inflammation)

1 找到 179,602 条结果

2. 1 AND SU=锌(Xin, Zinc) OR 补锌(Buxin, diet supplementation)

1 AND 2 找到 322 条结果

3. 2 AND AB= 临床观察 (Linchuang Guancha, clinical observation) OR 临床研究 (Linchuang Yanjiu, clinical trial) OR 临床试验 (Linchuang Shiyan, clinical trial) OR 临床对照 (Linchuang Duizhao, clinical control) OR 对照 (Duizhao, control) OR 比较研究 (Bijiao Yanjiu, comparative study) OR 随机 (Suiji, random*) OR 随机对照试验(Suiji Duizhao Shiyan, Randomized Controlled Trials) OR 单盲(Danmang, single blind procedure) OR 双盲 (Shuangmang, double blind procedure) OR 盲法(Mangfa, blind procedure) OR 三盲(Sanmang, triple blind procedure) OR 交叉(Jiaocha, crossover procedure) OR 安慰剂 (Anweiji, placebo)

1 AND 2 AND 3 找到 193 条结果

Note: SU=subject, AB=abstract

Database: Cochrane Central Register of Controlled Trials (CENTRAL)

Searched: 6 May 2020

Results: n=327

Search:

(Coronaviridae[mh] OR Coronavir* OR nCov OR covid OR Coronaviridae Infections[mh] OR Middle East Respiratory Syndrome Coronavirus[mh] OR "Middle East Respiratory Syndrome" OR MERS OR "Severe Acute Respiratory Syndrome" OR "Severe acute respiratory syndrome-related coronavirus" OR "Severe Acute Respiratory failure" OR "Acute febrile respiratory syndrome" OR SARS OR Respiratory Tract Infections[mh] OR "Lower respiratory infection" OR "viral respiratory" OR pneumonia OR "flu -like illness" OR bronchitis OR "Common cold" OR Rhinitis OR laryngitis OR "Respiratory Infections" OR "Infections, respiratory" OR "Infections, Respiratory Tract" OR "Infections, Upper Respiratory" OR "Upper Respiratory Tract" OR "Infections, Lower Respiratory Infections" OR "Lower Respiratory Infections" OR "Lung Inflammation" OR "Lobar Pneumonia" OR "Lung Inflammation" OR "Lobar Pneumonitis" OR "Pulmonary Inflammation")

AND

(Zinc[mh] OR zinc OR zn)

1.1.2 Clinical Trial Registries

Database: U.S. National Library of Medicine Register of Clinical Trials (ClinicalTrials.gov)

Searched: 5 May 2020

Results: n=14

Search: "zinc"

Condition: Coronavir* OR nCov OR covid OR "2019-nCoV infection"

Other terms: zinc OR zn

Databases: International Standard Randomized Controlled Trial Number Register (ISRCTN), and World Health Organization International Clinical Trials Registry Platform (WHO ICTRP)

Searched: 5 May 2020

Results: n= 12

Search:

Condition: Coronavir* OR nCov OR covid OR "2019-nCoV infection"

Other terms: zinc OR zn

Database: Chinese Clinical Trial Registry

Searched: 29 April 2020

Results: n=0

Search:

1. 干预措施 Intervention = 锌 (Xin, Zinc) OR 补锌 (Buxin, diet supplementation) AND 研究类型 Study type= 干预性研究 (Ganyuxing Yanjiu, Interventional Study) 13

2. 1 AND (((注册题目 Public title= 新型冠状病毒(Xinxing Guanzhuang Bingdu, Coronavirus) OR 新冠病毒(Xinguan Bingdu, COVID-19 or SARS-Cov-2 or 2019-nCov) OR 新型冠状病毒肺炎(Xinxing Guanzhuang Bingdu Feiyan, Coronavirus pneumonia) OR 新冠肺炎(Xinguan Feiyan, Coronavirus pneumonia) OR SARS-CoV OR SARS OR MERS OR MERS-CoV OR 中东呼吸道综合征(Zhongdong Huxidao Zonghezheng, MERS OR MERS-CoV) OR 呼吸道感染(Huxidao Ganran, Respiratory Infections) OR 肺部感染(Feibu Ganran, Lung Inflammation) OR 肺炎(Feiyan, Pneumonia) OR 肺部炎症(Feibu Yanzheng, Pulmonary Inflammation)) OR (正式学科名 Scientific title= Coronavirus OR 新型冠状病毒(Xinxing Guanzhuang Bingdu, Coronavirus) OR 新冠病毒(Xinguan Bingdu, COVID-19 or SARS-Cov-2 or 2019-nCov) OR 新型冠状病毒肺炎(Xinxing Guanzhuang Bingdu Feiyan, Coronavirus pneumonia) OR 新冠肺炎(Xinguan Feiyan, Coronavirus pneumonia) OR SARS-CoV OR SARS OR MERS OR MERS-CoV OR 中东呼吸道综合征(Zhongdong Huxidao Zonghezheng, MERS OR MERS-CoV) OR 呼吸道感染(Huxidao Ganran, Respiratory Infections) OR 肺部感染(Feibu Ganran, Lung Inflammation) OR 肺炎(Feiyan, Pneumonia) OR 肺部炎症(Feibu Yanzheng, Pulmonary Inflammation)))) 0

1.2 Search Update: Covid-19 Focused Only, June 2020**1.2.1 Clinical Trial Registries**

Database: U.S. National Library of Medicine Register of Clinical Trials (ClinicalTrials.gov)

Searched: 17 June 2020

Results: n=15

Search:

Condition: "COVID-19" OR "SARS-CoV-2" OR "severe acute respiratory syndrome coronavirus 2" OR "2019-nCoV" OR "2019 novel coronavirus" OR "Wuhan coronavirus"

Other terms: zinc OR zn

Study type: Interventional (Clinical trial)

Databases: International Standard Randomized Controlled Trial Number Register (ISRCTN), and World Health Organization International Clinical Trials Registry Platform (WHO ICTRP)

Searched: 17 June 2020

Results: n=19

Search:

Condition: Coronavir* OR nCov OR covid OR "2019-nCoV infection"

Other terms: zinc OR zn

1.3 Search Update: Covid-19 Focused Only, August 2020

1.3.1 Main Databases

Database: PubMed

Searched: 19 August 2020

Results: n=16

Search:

(Coronaviridae[mh] OR Coronavir* OR nCov OR covid OR Coronaviridae Infections[mh] OR "Severe Acute Respiratory Syndrome" OR "Severe acute respiratory syndrome-related coronavirus" OR "Severe Acute Respiratory failure" OR "SARS")

AND

(Zinc[mh] OR zinc OR zn)

AND

(randomized controlled trial[pt] OR controlled clinical trial [pt] OR randomized [tiab] OR placebo [tiab] OR drug therapy [sh] OR randomly [tiab] OR trial [tiab] OR groups [tiab]) NOT (animals [mh] NOT humans [mh])

Filters: from 2020 – 2020

Database: Embase (Ovid)

Searched: 19 August 2020

Results: n=2

Search:

- 1) (exp Coronaviridae/ OR exp Coronaviridae infection/ OR (Coronavir* OR nCov OR covid "Severe Acute Respiratory Syndrome" OR "Severe acute respiratory syndrome-related coronavirus" OR "Severe Acute Respiratory failure" OR SARS
- 2) (exp zinc/ OR (zinc OR zn).ti,ab,kw.)
- 3) (exp dietary supplement/ OR (supplement* OR deficiency OR additive* OR vitamin*).ti,ab,kw.)
- 4) 2 AND 3
- 5) (crossover-procedure/ OR double-blind procedure/ OR randomized controlled trial/ OR single-blind procedure/ OR (random* OR factorial* OR crossover* OR cross over* OR placebo* OR (doubl* adj blind*) OR (singl* adj blind*) OR assign* OR allocat* OR volunteer*).tw.
- 6) 1 AND 4 AND 5

Limited to 'past year'

Database: EBSCOhost (Academic Search Complete, Allied and Complementary Medicine Database (AMED), Alt HealthWatch, CINAHL Plus with Full Text, Health Source and PsycINFO)

Searched: 17 August 2020

Results: n=20

Search:

(Coronaviridae OR Coronavir* OR nCov OR covid OR Coronaviridae Infections OR "Severe Acute Respiratory Syndrome" OR "Severe acute respiratory syndrome-related coronavirus" OR "Severe Acute Respiratory failure" OR SARS)

AND

(Zinc OR zn)

AND

(Randomi*ed controlled trial OR controlled clinical trial OR randomi*ed OR placebo OR drug therapy OR randomly OR trial OR groups OR "comparative effectiveness")

Database: CKNi (Chinese Knowledge Database)

Searched: 11 August 2020

Results: n=0

Search:

Xinxing Guanzhuang Bingdu [su] (COVID-19 OR 2019-nCov OR SARS-Cov-2 OR Coronavirus) OR Xinguan Bingdu [su] (COVID-19 OR 2019-nCov OR SARS-Cov-2 OR Coronavirus) OR Xinxing Guanzhuang Bingdu [ti/ab] (COVID-19 OR 2019-nCov OR SARS-Cov-2 OR Coronavirus) OR Xinguan Bingdu [ti/ab] (COVID-19 OR 2019-nCov OR SARS-Cov-2 OR Coronavirus) OR Xinxing Guanzhuang Bingdu Feiyan [su] (coronavirus pneumonia) OR Xinguan Feiyan [su] (coronavirus pneumonia) Xinxing Guanzhuang Bingdu Feiyan [ti/ab] (coronavirus pneumonia) OR Xinguan Feiyan [ti/ab] (coronavirus pneumonia)

OR SARS-CoV [su] OR SARS [su] OR SARS-CoV [ti/ab] OR SARS [ti/ab]

AND

(Xin [su] (Zinc) OR Buxin [su] diet supplementation) OR (Xin [ti/ab] (Zinc) OR Buxin [ti/ab] diet supplementation)

AND

(Suiji [ft] (randomized controlled trials OR random*)) OR (linchuang shiyan [ti/ab] (clinical trial)) OR (shiyan [ti/ab] (trial)) OR (linchuang guanacha [ti/ab] (clinical observation)) OR (linchuang yanjiu [ti/ab] (clinical investigation)) OR (anweiji [ti/ab] (placebo)) OR (duizhao [ti/ab] (control*))

Filters: from 2020 – 2020

Database: Cochrane Central Register of Controlled Trials (CENTRAL)

Searched: 17 August 2020

Results: n=13

Search:

(Coronaviridae[mh] OR Coronavir* OR nCov OR covid OR Coronaviridae Infections[mh] OR "Severe Acute Respiratory Syndrome" OR "Severe acute respiratory syndrome-related coronavirus" OR "Severe Acute Respiratory failure" OR "SARS")

AND

(Zinc[mh] OR zinc OR zn)

Filters: from 2020 – 2020

1.3.2 Clinical Trial Registries

Database: U.S. National Library of Medicine Register of Clinical Trials (ClinicalTrials.gov)

Searched: 7 August 2020

Results: n=14

Search:

Condition: "COVID-19" OR "SARS-CoV-2" OR "severe acute respiratory syndrome coronavirus 2" OR "2019-nCoV" OR "2019 novel coronavirus" OR "Wuhan coronavirus"

Other terms: zinc OR zn

Study type: Interventional (Clinical trial)

First posted: 01 May 2020

Databases: International Standard Randomized Controlled Trial Number Register (ISRCTN), and World Health Organization International Clinical Trials Registry Platform (WHO ICTRP)

Searched: 7 August 2020

Results: n=29

Search:

Condition: Coronavir* OR nCov OR covid OR "2019-nCoV infection"

Other terms: zinc OR zn

Database: www.covid19-trials.org

Searched: 7 August 2020

Results: n=22

Search:

Terms: zinc OR zn

Database: Chinese Clinical Trial Registry

Searched: 11 August 2020

Results: n=0

Search:

1. 干预措施 Intervention = 锌 (Xin, Zinc) OR 补锌 (Buxin, diet supplementation) AND 研究类型 Study type= 干预性研究 (Ganyuxing Yanjiu, Interventional Study)

2. 1 AND (((注册题目 Public title= 新型冠状病毒(Xinxing Guanzhuang Bingdu, Coronavirus) OR 新冠病毒(Xinguan Bingdu, COVID-19 or SARS-Cov-2 or 2019-nCov) OR 新型冠状病毒肺炎(Xinxing Guanzhuang Bingdu Feiyan, Coronavirus pneumonia) OR 新冠肺炎(Xinguan Feiyan, Coronavirus pneumonia) OR SARS-CoV OR SARS OR MERS OR MERS-CoV OR 中东呼吸道综合征(Zhongdong Huxidao Zonghezheng, MERS OR MERS-CoV) OR 呼吸道感染(Huxidao Ganran, Respiratory Infections) OR 肺部感染(Feibu Ganran, Lung Inflammation) OR 肺炎(Feiyan, Pneumonia) OR 肺部炎症(Feibu Yanzheng, Pulmonary Inflammation)) OR (正式学科名 Scientific title= Coronavirus OR 新型冠状病毒(Xinxing Guanzhuang Bingdu, Coronavirus) OR 新冠病毒(Xinguan Bingdu, COVID-19 or SARS-Cov-2 or 2019-nCov) OR 新型冠状病毒肺炎(Xinxing Guanzhuang Bingdu Feiyan, Coronavirus pneumonia) OR 新冠肺炎(Xinguan Feiyan, Coronavirus pneumonia) OR SARS-CoV OR SARS OR MERS OR MERS-CoV OR 中东呼吸道综合征(Zhongdong Huxidao Zonghezheng, MERS OR MERS-CoV) OR 呼吸道感染(Huxidao Ganran, Respiratory Infections) OR 肺部感染(Feibu Ganran, Lung Inflammation) OR 肺炎(Feiyan, Pneumonia) OR 肺部炎症(Feibu Yanzheng, Pulmonary Inflammation))) 0

1.3.3 Preprint Repositories

Database: BioRxiv (<https://www.biorxiv.org>)

Searched: 7 August 2020

Results: n=50

Search:

Term "((COVID) OR (SARS)) AND (ZINC) AND (TRIAL)" and posted between "01 Jan, 2020 and 07 Aug, 2020"

Database: MedRxiv (<https://www.medrxiv.org>)

Searched: 7 August 2020

Results: n=54

Search:

Term "((COVID) OR (SARS)) AND (ZINC) AND (TRIAL)"

1.3.4 Other Sources

Bibliographies

Searched: 15 July 2020

Results: n=2