



ASIA PACIFIC CENTER FOR  
EVIDENCE BASED HEALTHCARE

## Should zinc supplements be used in the prevention of COVID-19?

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### KEY FINDINGS

Currently, there is no clinical evidence that zinc supplements should be used to prevent COVID-19.

- Zinc is an important micronutrient that is essential for our immune response. Increased intracellular zinc concentrations have antiviral effects. In vitro studies have shown that  $Zn^{2+}$  efficiently inhibited the RNA-synthesizing activity and directly inhibited the in vitro activity of SARS-CoV1. SARS-CoV RdRp elongation was inhibited and template binding reduced, effectively blocking replication of the virus. [1]
- Currently, there is no clinical evidence that zinc supplements can be used to prevent COVID-19 infection.
- There are two ongoing, single arm clinical trials registered in [clinicaltrials.gov](https://clinicaltrials.gov) but none are investigating zinc supplementation alone.
- Zinc sulfate supplements have been found to reduce the duration of colds and the incidence of pneumonia among children.
- When taken together with other supplements, zinc may reduce copper and iron levels in the body.[2]

### RESULTS

**Disclaimer:** The aim of these rapid reviews is to retrieve, appraise, summarize and update the available evidence on COVID-related health technology. The reviews have not been externally peer-reviewed; they should not replace individual clinical judgement and the sources cited should be checked. The views expressed represent the views of the authors and not necessarily those of their host institutions. The views are not a substitute for professional medical advice.

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We found no completed clinical studies on zinc supplements as a prevention for COVID-19.

There are two ongoing studies registered in [clinicaltrials.gov](https://clinicaltrials.gov) but none are investigating oral zinc supplementation alone. One ongoing clinical trial in the USA is investigating the efficacy of a combination of hydroxychloroquine, Vitamin C, D, and zinc supplements as a prevention of COVID-19 among medical workers.[3] There is an ongoing single-arm clinical trial in Turkey investigating hydroxychloroquine 200 mg every 3 weeks combined with Vitamin C and zinc supplements once a day among healthcare workers and their first degree relatives .[4]

There is indirect evidence that zinc supplements may prevent respiratory infections caused by coronaviruses. Zinc supplements have been found to reduce the duration of colds [5] and the incidence of pneumonia among children.[6]

## CONCLUSION

Currently, there is no clinical evidence that zinc supplementation should be used for the prevention of COVID-19. There are two ongoing clinical trial investigating zinc supplements combined with other medications as prevention for COVID-19.

## Declaration of Conflict of Interest:

No conflict of interest

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Appendix 1. Characteristics of Ongoing Trials

No .	Clinical Trial ID/ Title	Status	Start & estimated primary completion date	Study design	Country	Population	Intervention	Comparison Group(s)	Outcomes
1	NCT04335084 / A Study of Hydroxychloroquine, Vitamin C, Vitamin D, and Zinc for the Prevention of COVID-19 Infection (HELPCOVID-19)	Not yet Recruiting	April 2020; April 2021	Open label, single arm clinical trial	USA	Medical workers who are exposed to COVID-19	Combination of hydroxychloroquine with Vitamin C, Vitamin D, and Zinc supplements	none	Prevention of COVID-19 measured by negative testing with RT-PCR [ Time Frame: 24 weeks ]  Safety as determined by blood pressure readings  Safety as determined by presence of side effects

2	NCT04326725	Recruiting	March 20, 2020; July 1, 2020	Open label, Single arm clinical trial	Turkey	doctors, nurses, health workers in the hospital with close contacts to possible COVID-19 infected patients; & their first degree relatives (spouse, child, parents)	hydroxychloroquine( Plaquenil) 200mg single dose repeated every three weeks plus vitamin C including zinc once a day	Protection against COVID-19 [ Time Frame: 4 months ]
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