

Zinc may help with fertility during COVID-19 pandemic, researchers report

4 February 2021



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Wayne State University School of Medicine researchers have reported that zinc supplements for men and women attempting to conceive either naturally or through assisted reproduction during the COVID-19 pandemic may prevent mitochondrial damage in young egg and sperm cells, as well as enhance immunity against the virus.

In "Potential Role of Zinc in the COVID-19 Disease Process and its Probable Impact on Reproduction," published in *Reproductive Sciences*, Husam Abu-Soud, Ph.D., associate professor of Obstetrics and Gynecology and the C.S. Mott Center for Growth and Development, said that in addition to benefiting couples attempting to conceive during the pandemic, zinc supplementation of up to a maximum of 50 mg per day for all adults could be beneficial in enhancing immunity and fighting the viral disease process of COVID-19.

Dr. Abu-Soud and co-authors Ramya Sethuram, Reproductive Endocrinology and Infertility fellow, and medical student David Bai, reviewed the pathophysiology of COVID-19, particularly in

relation to reproductive function. They found that zinc depletion in connection with the cytokine storm—the overreaction of the immune system that causes inflammation, [tissue damage](#) and possible organ failure in fighting COVID-19—can cause mitochondrial damage and an accumulation of reactive oxygen species in the immature egg and sperm. The result could prevent reproduction and conception.

Zinc has [beneficial effects](#) as an antioxidant and anti-inflammatory agent, and could prevent or mitigate the damage in the egg and [sperm cells](#) that result from the body's immune reaction to the virus, Dr. Abu-Soud said. The use of zinc could improve embryo quality and potentially lessen some pregnancy complications.

He also noted that zinc can be beneficial to the general population in enhancing immunity and fighting the viral disease process. The element works by combating oxidative cell damage.

Zinc alone may be insufficient to reverse the process once widespread oxidative cell damage has occurred. However, if the supplement is administered to those infected with COVID-19 before the cytokine storm phase, zinc may assist in ameliorating disease progression in the mild and early phases by suppressing viral replication and preventing cell damage as a pro-antioxidant, the researchers said.

More information: Ramya Sethuram et al, Potential Role of Zinc in the COVID-19 Disease Process and its Probable Impact on Reproduction, *Reproductive Sciences* (2021). [DOI: 10.1007/s43032-020-00400-6](#)

Provided by Wayne State University

APA citation: Zinc may help with fertility during COVID-19 pandemic, researchers report (2021, February 4) retrieved 26 May 2022 from <https://medicalxpress.com/news/2021-02-zinc-fertility-covid-pandemic.html>

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