

Can Zinc Be an Option for Prevention of Corona Virus Disease 2019?

Dear Editor,

The pandemic outbreak of the Corona Virus Disease 2019 (COVID-19) claiming thousands of lives since the last months of 2019, globally, has changed the face of the world, visions and expectations from the medical facilities, and up to now there is no definite treatment or vaccine for the infection.^[1] Hence, the prompt action and most effective protocol against the disease is supportive care and educating the population for effective hygienic considerations.

Regarding our experience as well as reports from other countries involved in treatment of patients infected with COVID-19, these individuals showed normal or decreased number of white blood cells and lymphocytopenia. Besides, significant increases were seen in the levels of different types of cytokines and chemokines.^[2] Zinc (Zn) is a crucial micronutrient that plays an important role in maintaining efficient functions of the immune system. Based on emerging evidence, it is becoming obvious that Zn can increase cytotoxicity of natural killer cells and increase numbers of cytotoxic T cells.^[2,3] Thus, Zn deficiency is assumed to be an important cause of immune system dysfunction and its related morbidities throughout the world.^[3] In addition, gene expression in different stages of cell proliferation, survival, and response of T lymphocytes can be altered by even moderate Zn deficiency.^[3] Antibody- and cell-mediated immune responses are also compromised in Zn depriving patients resulting in more severe infections.^[4] Moreover, high-risk subjects, including the elderly and those with chronic illnesses, are the most prone ones to zinc deficiency as well as infections like COVID-19.^[4] Previously, it was demonstrated in an experimental study that Zn has therapeutic effects against another human pathogen, coronavirus induced severe acute respiratory syndrome. Zn inhibits replication of corona virus in cell culture by blocking RNA-dependent RNA polymerase activity.^[5] Conclusively, individuals who have inadequate zinc intake are prone to various types of infections and we assume that zinc supplementation may provide an advantage in lowering the rate of severe infections and can be a potential candidate for add-on therapy in COVID-19 infection.

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Conflicts of interest

There are no conflicts of interest.

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