



DIETARY SUPPLEMENT USE IN FIGHTING COVID-19 INFECTION

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Introduction. Since the outbreak of the SARS-CoV-2 pandemic in 2020, the emphasis has been on the benefits of some dietary supplements (DS) such as vitamins and minerals supplements to prevent and treat COVID-19. At present, there is no effective antiviral therapy confirmed and symptomatic supportive intervention is still the main prevention in complications. There has been a previous suggestion that there is a role for some dietary supplementation to prevent the severity of the COVID-19 and to enhance the immune system.

An optimal functioning of the immune system is closely linked to an adequate supply of micro and macronutrients to the body, while severe deficiencies of these, may lead to weakened immune responses and vulnerability to diseases. In the last period, there has been a significant increase in sales of DS such as vitamin C, D, Omega-3, Zinc etc. Given that there is currently no specific treatment for coronavirus infection, the administration of DS may be considered harmless.

Material and methods. A bibliographic review was performed, using bibliographic and literature database platforms such as Medline, PubMed, ClinicalTrials, Google Scholar, as well as the keyword „dietary supplements COVID-19” in identifying the evidence of the potential positive effect and administrated doses of some DS in prevention and treatment of SARS-CoV-2.

Results. According to some available evidence, the intake of 50,000 IU/month of vitamin D, 1 to 2 g/day of vitamin C, and 50 mg/day of zinc supplementation showed positive results in CRP. COVID-19 patients demonstrated zinc deficiency and inhibitory role of zinc in replication of the SARS-CoV virus, while 2,2 g/day (at least recommended) Omega-3 (α -linolenic acid) supplementation improved the levels of several parameters of respiratory and renal function in critically ill patients.

An observational study from UK, USA and Sweden found that DS consumption, such as probiotics, Omega-3, multivitamins and vitamin D has been associated with a lower risk of SARS-CoV-2 infection. The data analysis such as age, sex and weight showed that probiotics, Omega-3, multivitamins and vitamin D provide protection especially in women, regardless of age or weight, however it is not as clearly observed in men.

Conclusions. DS may help maintain a healthy immune system, but it is not known whether specific DS may be associated with a lower risk of infection with the novel coronavirus. The role of vitamins C, D, Omega-3 and Zinc in boosting the immune system against COVID-19 is still being studied.

On the other hand, available studies show that the potential effect on the prevention and treatment of COVID-19 by administering DS could be achieved at high doses, which would otherwise raise questions regarding the reasonableness of the „regular” DS administration for treatment and prevention purposes, taking into account that DS regulations stipulate a daily recommended/maximal dose being in some cases up to 10 times lower to achieve the declared prophylactic or therapeutic effect.

Nevertheless, the role of the physician is essential in administering proper treatment and doses of DS appropriate to the patient’s medical condition.