



Evaluation of the Relationship Between Vitamin D Deficiency and The Epidemiology of Covid-19

Ali Ahmadi^{1*}, Kowsar Heydari^{1,2}, Narges Mohammadi^{1,2} and Fatemeh Hoseinnejad^{1,2}

¹Department of Medical Sciences, Islamic Azad University Sari Branch, Iran

²Student Research Committee, Islamic Azad University Sari Branch, Iran

*Corresponding author: Ali Ahmadi, Student, Student Research Committee, Islamic Azad University Sari Branch, Sari, Iran.

To Cite This Article: Ali Ahmadi, Kowsar Heydari, Narges Mohammadi, Fatemeh Hoseinnejad. Evaluation of the Relationship Between Vitamin D Deficiency and The Epidemiology of Covid-19. *Am J Biomed Sci & Res.* 2022 - 15(4). *AJBSR.MS.ID.002127*. DOI: [10.34297/AJBSR.2022.15.002127](https://doi.org/10.34297/AJBSR.2022.15.002127)

Received: 📅 February 16, 2022; **Published:** 📅 February 22, 2022

Editor

Covid-19 infectious disease appeared in 2019 and soon spread worldwide. The most important symptom of death is acute respiratory distress syndrome (ARDS). Factors associated with the worse prognosis of Covid-19 include age, ethnicity, gender, obesity, diabetes, heart disease, and high blood pressure, and these factors are associated with vitamin D deficiency or response.[1] As we know that vitamin D can affect the immune system, we decided to evaluate the effect of vitamin D on the severity of SARS-Kovi-2 infection. Two studies found no evidence to support the effect of vitamin D deficiency on the severity of Covid-19, and there was no evidence of a protective effect of vitamin D against SARS-CoV-2 infection. Also, the other 2 studies can be limited. But most studies have found a significant association between vitamin D deficiency and the severity of Covid-19 disease. They found that vitamin D affects phosphate and magnesium metabolism, which may play an important role in the pathogenesis of Covid 19[2].

Low levels of 25OHD were associated with high levels of IL-6 and an excessive range of IL-6 as predictors of COVID-19 severity and mortality. Patients with vitamin D deficiency and diabetes, or patients with vitamin D deficiency and overweight, are more likely to have a severe illness with worse respiratory problems than people who do not have the condition or have only one. [3,4] There is a link between vitamin D deficiency and infections, proinflammatory cytokine concentrations, ARDS, poor prognosis and disease severity. Therefore, vitamin D deficiency may indicate a poor prognosis in these patients. Vitamin D deficiency was associated with higher mortality, hospitalization, and longer hospital stays compared to

vitamin D deficiency. Treatment factors include plasma therapy, which is the best way to improve the recovery rate of patients with this disease. [5,6] In order to control the prevalence of COVID-19, early detection and reduction of close contact is the best way to prevent this disease. Reducing secondary infections among medical staff facilitates knowledge of genome sequencing for rapid virus detection. Rapid response of Chinese Clinical and Scientific Public Health Associations facilitates understanding of clinical diseases and initial understanding of infection epidemiology.

Based on studies of the articles, the results showed that aspirin use in the early days of illness or even hospitalization reduced the risk of mechanical ventilation by 44%, the risk of ICU hospitalization by 43%, and in-hospital mortality by 47%. Give. The results of this study also indicate that there was no significant difference in the incidence of major bleeding between the aspirin group and the aspirin group and other studies have shown that only those who are seriously ill or have a weakened immune system are more likely to transmit the virus to others within 20 days. The new analysis suggests that even in mild cases, some patients may transmit the virus to others for up to a week. The current CDC guidelines recommend that infected people be quarantined for at least 10 days after the onset of their illness. But the proposal to reduce the quarantine period is set to be considered early next week. In September, France reduced its quarantine days from two weeks to a week, and Germany plans to reduce it to five days. A study in the UK found only one in five infected people was able to quarantine for 10 days. Therefore, reducing the number of quarantine days can help to implement it properly [7].

References

1. Ahmadi A, H Hekmatnezhad (2020) The sound of getting rid of coronavirus by RNA interference technology: RNAi against COVID-19. *J Curr Biomed Rep* 1(2): 45-47.
2. Bakaloudi DR, M Chourdakis (2022) A critical update on the role of mild and serious vitamin D deficiency prevalence and the COVID-19 epidemic in Europe. *Nutrition* 93: 111441.
3. Shakeri H, Amir Azimian, Hamed Ghasemzadeh Moghaddam, Mohammadreza Safdari, Mehdi Haresabadi, et al. (2022) Evaluation of the relationship between serum levels of zinc, vitamin B12, vitamin D, and clinical outcomes in patients with COVID-19. *J Med Virol* 94(1): 141-146.
4. Jayawardena R, Dhanushya T Jeyakumar, Tormalli V Francis, Anoop Misra (2021) Impact of the vitamin D deficiency on COVID-19 infection and mortality in Asian countries. *Diabetes Metab Syndr* 15(3): 757-764.
5. Ahmadi A (2021) The Effect of Interferon and Acute Appendicitis Infection on the Course of COVID-19 Disease.
6. Brenner H (2021) Vitamin D supplementation to prevent COVID-19 infections and deaths-accumulating evidence from epidemiological and intervention studies calls for immediate action. *Nutrients* 13(2): 411.
7. Ebrahimi M, Mesenchymal stem cells therapy and COVID19: a narrative review.