

## A Possible Correlation between Obesity, Covid-19 and Vitamin D

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### Opinion

Obesity is correlated with significant human and social costs, an intransigent pandemic epidemic that is rising worldwide. At the same time, high obesity rates are known to decrease defense against pathogens. Around the same moment, high prevalence of obesity, considered to decrease defense against pathogens [1], are seen in patients with COVID-19 and particularly in those with metabolic syndrome associated with obesity. Even so, the correlation between decreased obesity and inadequate immune function and infection propensity presents significant issues about the likelihood of greater viral infectivity in this population [2]. The incidence of COVID-19 disease could also identify opportunities to body mass index [3]. A possible mechanism developed to describe this result is that elevated adiposity could compromise the pulmonary cell membrane in which a disordered loop of local inflammation, immune responses, and secondary injury is set up by the virus that tends to interfere with the host in this setting [4]. An even more significant problem is that obesity may entail a deficiency/insufficiency of vitamin D [2,5] thereby reducing the ability of the obese patients to reduce the risk of viral infections as effectively as lean people. Vitamin D deficiency can, in its own right, also generate or encourage states of obesity, diabetes, and cardiovascular disease [6]. Understandably, patients suffering from low vitamin D, such as those who are obese, tend to have an elevated risk for COVID-19 [7]. Therefore, to mitigate the effects of misery as a result of COVID-19, and especially among the population at risk of obesity, it can be suggested that a position for the prevention of obesity [8], weight loss, plus vitamin D supplementation as required, should not be ignored before a vaccine or some sort of therapy is arisen. Many studies indicate that, due to the effect of obesity on prolonged viral shedding, lockdown in obese patients should probably be prolonged than is suggested for individuals of average weight. The world is obviously in the middle between an obesity epidemic and an unforeseen viral pandemic, it is necessary therefore to encourage researchers and clinicians to urgently explore ways to either avoid or reduce the effect of obesity other than vaccination and isolation, as well as COVID-19 and its ability to spread quickly [9].

Another, it is necessary encourage both public health professionals and political leaders to still do everything that they can across appropriate public health initiatives and advertisements to concentrate on efforts to minimize obesity as well as the risk of COVID-19 infections, frequently related to obesity. Within that context, and in regards to investing health initiatives, this could include informing the public on the importance of vitamin D in lowering the risk of respiratory tract infections and growing the resistance to infections, as well as having a positive effect on those who are obese and who are at increased risk of COVID-19. For now, it seems rational to presume that vitamin D supplementation or usage could provide a secure method of positively affecting obesity and COVID-19 infection rates, in accordance to weight loss strategies, where possible. In addition, measures to encourage optimum immune function by weight reduction in obese people can also be beneficial. The predicted advantages of this strategy might just be that obese adults who maintain a good or ideal weight could have less risk of COVID-19 infections, and could recover more easily, need less intensive hospitalization, and be more effective and more freely able to engage in outdoor activity within the prescribed safety limits [10]. In conclusion, educational programs, nutritionists and other physicians could be able to expand this knowledge to social media health websites

and forums used by adults for specific nutrients containing vitamin D, thereby guaranteeing that what individuals have been related to in this manner is based on science and provides for particularly viable secure, inexpensive solutions and activities, particularly during the winter months.

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