



BOOSTING THE IMMUNITY POWER BY TAKING VIT-C MAY BE A BETTER WAY THAN LOCKDOWN AGAINST SARS-COV-2- A MINI REVIEW

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ABSTRACT

The whole world is fighting against the Novel corona virus, SARS-CoV-2 since late December of 2019. After infection, most of the people are suffering from respiratory problems, no vaccine is discovered till now. Thus how will we fight against such type of uncharacterized opponent? Administrative persons have taken various steps to prevent its propagation-lockdown is one of them. But it is not the sufficient and only way out as it disturbs the life- livelihood relation. Humans must potentially protect themselves and have to boost their adaptive immune system. In this mini review, how vit-C can be used as immunity power booster in front of SARS-CoV-2 has been discussed.

Keywords: SARS-CoV-2, Immunity, Vit-C, Lockdown

1. INTRODUCTION & DISCUSSION

We are now going through a pandemic situation. And we all know the reason of this is fully caused by Corona virus disease (Covid-19). The experienced persons showed various lights to go out from this darkness. Among them, according to me, lockdown is the best policy until no specific medical facilities are available to all of us. Vaccine is the only plausible way to come out from this epidemic disease. The outbreak of corona virus (SARS-CoV-2) was first observed in Wuhan, China at the late December of 2019 [1]. Corona viruses did not grow up recently; from a long time ago they dominated in the world. A novel corona virus was identified as Severe Acute Respiratory Syndrome (SARS) [2, 3]. Before SARS-CoV-2 outbreak, it was thought to cause only mild respiratory infections in animals. The novel (new) corona virus SARS-CoV-2 is one of which can infect humans. SARS probably had been around us for sometimes in the animals [4, 5], but it transfers into the humans [6-8] and thus causing great headache to the scientists- the virus is not new in this world but new to the humans. Most of the people infected with this virus experiencing mild to moderate to strong respiratory illness and recover without special treatment. Aged people and who are suffering underlying medical problems like diabetics, chronic respiratory disease and cancer are more likely to develop serious illness. Racaniellow, Professor of microbiology and immunology at the College of Physicians and Surgeons of Columbia University, posted

a write up in the virology blog on 7th May, 2020 and there he mentioned that SARS-CoV-2 contains one and only one strain. Again from news of Owen Dyer [BMJ, 2003, 10th May, 326(7397), 999] it was observed that two strains of SARS-CoV-2 were sequenced. In an Indian news and media website (First post), on Aril 28, 2020, a huge news comes in front of us. It said, a study that was done at the National Institute of Biomedical Genomics, West Bengal suggest that there are at least 11 different strains of SARS-CoV-2. For the study, scientists at NIBG studied more than 3600 samples of this virus genome collected from various countries (around 55) of the world. Among these 11 A2a is currently the most prevalent of the world.

From the above discussion it can be said that it is very difficult to discover a medicine or a vaccine so that it can protect all the affectable strains of this virus. Thus to prevent or control the spreading of infection, the lockdown was the right and best choice. But it should be kept in mind that you have to maintain the lives and livelihood relation smoothly, especially for developing countries. Lockdown, social distancing, and stay at home- these terms are now very common to us to mitigate the spreading of covid-19. There are intelligent administrations in various countries to run smoothly their sociological and also economical strategies. Expectedly, this lockdown has given some special impact on our social, economical, mental environment. Both, lockdown

and withdrawing lockdown are dangerous for our society.

Now the overarching aim of this discussion is to explain whether we can prevent the spreading of infection of covid-19 by increasing our immunity power by vit-C. Actually SARS-CoV-2 can attack our respiratory system [9]. There were other several clinical features also observed, *e.g.*, gastrointestinal complaints [10], Diarrhea [11] etc.

The primary function of the immune system is to defend the body from pathogens, which are disease-causing organisms such as viruses and bacteria, fungi, and parasites, as well as cancer cells. Tissues, cells, and proteins in the immune system work together to achieve this function [12, 13]. There are several recommended pathways to boost the immunity power of humans- daily exercise, not to smoke, intake plenty of water, take essential nutrients, sufficient sleeping etc. Taking a low-fat, plant-based diet may help to give the immune system a boost. The immune system relies on white blood cells that produce antibodies to struggle against bacteria, viruses, and other invaders. Vegetarians have been shown to have stronger immune system compared to nonvegetarians, due to a high intake of vitamins and low intake of fat [14, 15]. From studies it was shown that limiting dietary fat helps strengthen immune defenses. Research also shows that oil may spoil white blood cell function and that high-fat diets may alter the gut microbiota that aid in immunity [16-19]. Studies have shown that fruits and vegetables provide nutrients-like beta-carotene, vitamin C, and vitamin E-that can boost immune function. Because many vegetables, fruits, and other plant-based foods are also rich in antioxidants, they help reduce oxidative stress [20]. Someone directly jumps to the requirement of sufficient vit-C to increase the immunity power of our body system [21]. It is commonly known as the L-ascorbic acid or simply ascorbic acid. Ascorbic acid stimulates iron absorption [22]. Vitamin C boosts up human immunity towards infections and cold illnesses by increasing phagocytosis, lymphocyte proliferation and neutrophil chemotaxis against exogenous pathogens. Reactive oxygen species (ROS), generated by activated immune cells during the process of phagocytosis, can be scavenged by non-enzymatic antioxidants, such as vitamin C or by enzyme action [23]. Whereas ROS play essential roles in intracellular killing of bacteria and other invading organisms, the immune system and other body's molecules may be vulnerable to oxidative attack. Almost

a century ago, some authors reported that vitamin C might affect respiratory infections. However, no attention was paid to this topic until 1970, when Nobel laureate Linus Pauling wrote the bestseller 'Vitamin C and the Common Cold.' Studies have showed that vitamin C substantially reduced the incidence or severity of respiratory infections [24]. There is also evidence indicating that vitamin C may affect pneumonia [25].

Research is going on to observe that if there is a relation between vit C and covid-19. From a report of February 2020, it was seen that the patients hospitalized with COVID-19-related pneumonia indicated that 26% were transferred to the ICU because of complications such as acute respiratory distress syndrome (ARDS) and shock [26]. After this, another study was done in USA on 167 Patients who were suffering from ARDS. They were allowed to intake 15g/day vit C and then it was observed that the mortality rate decreases [27]. Mortality rate decreases for hospitalized covid-19 patient if they intake vit C regularly was again reported in Wilson et al [28].

2. CONCLUSION

Like other corona viruses SARS-CoV-2 mimics the influenza virus regarding clinical presentation, transmission mechanism, and seasonal coincidence but somewhat new to humans and till now have no medical treatment to prevent its infection among the society. For this reason separation or isolation from the gathering was advised to maintain, artificially it was named as Lockdown. But actually from the above discussion an opinion arises-lockdown is not the only pathway; it hampers the other needs of social human lives. If we strengthen our immune system, there is less possibility of attacking any virus. The immune system is the first-line defense system of our body. From the above discussion, it is clear that vit-C(Ascorbic acid) has a great ability to boost the immunity power of our body system and also helps to recover from respiratory problems. Thus during this pandemic situation you can enhance the activity of your defense system so that no microorganism or any other noxious substances can attack your loving temple.

3. REFERENCES

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