

ORIGINAL ARTICLE

# The Impact Of Healthy Diets During And After Covid-19

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## ABSTRACT

Diet is an important factor that always significantly influences the outcome of the disease. Including the factors having higher risk of morbidity from the disease, there are some common factors also influences like being elderly aged, coexistent comorbidities. The dietary consumption of the patient is vital since some Western Diets that are largely refined predispose one to metabolic diseases and cardiological diseases. Hence the immunity of individuals is influenced by the consumption of such diets. For which the disease prevention power of immune system is also reduced. In order to reduce the severity of disease there is a need of health education on patients in different conditions which can be possible by encompassing healthy eating habits and next to convey the importance and awareness regarding health eating.

**Keywords:** Diet, Immunity, Eating habit, COVID 19, Disease

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**Submitted:** 02-Feb-2022

**Accepted:** 27-May-2022

**Published:** 22-Jun-2022

## INTRODUCTION

The outcome of COVID-19 disease is influenced by so many factors that plays important role and Diet is one of them. The body response to any infection and the individual immunity. A proper understanding of diet role is paramount when a nutritionist is offering health education to such patients. This study is mainly conducted to review the correlation between diet and COVID-19 outcomes and its effect in body function by influenced by immunity.

## STUDY OF IMPACT OF COVID-19 DISEASE IN DIFFERENT POPULATIONS AND ROLE OF DIET IN INFLUENCING OUTCOMES

Though the Covid-19 virus affected all the populations including the underrepresented populations in different age

groups and those having concurrent medical complaints are at the maximum menace[1]. The increased rate of consumption of Western diets or foods having excessive refined, sugars, saturated fats and carbohydrates globally, predisposes into second type or type2 diabetes mellitus and overweightness, uplifting the individual perils for Covid-19 severe death rate and indisposition. Western diets stimulate the inborn resistant structure and deteriorates adaptive immunity, subsequent in persistent swelling and compromised safety against the Covid-19. Besides, the marginal inflammation arising as of Covid-19 which results in neurodegenerative disarrays and dementia aggravated by morbid foods via neuroinflammatory means. Highest Priority

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<b>Access this article online</b>
<b>Website:</b> <a href="http://www.ijfans.org">www.ijfans.org</a>
<b>DOI:</b> 10.4103/ijfans_99-22

How to cite this article: Abinash Patra, Haragouri Mishra, Shyama Sundar Sahu, K Shyam Sundar Rao, Sukanta Satapathy, Chandrasekhar Patro, Bibhu Prasad Moharana and Swagatika Dash. The Impact Of Healthy Diets During And After Covid-19. Int J Food Nutr Sci 2022;11:32-36.

should always give to healthy diets and people must be watchful to adopt fit eating behaviours to minimize the proneness and the chronic complications arising from the virus [2]. It's required to achieve and preserve appropriate nutritional status to combat viral infections successfully. Optimum diets absolutely influence the body's defences [3].

## HEALTHY DIET IN SAFEGUARDING PATIENTS

Additional investigate validates that a Healthy Diets is vital during and after the Covid-19 disease. Healthy eating habits and Healthy Diets education are practical approaches to safeguarding front-line health practitioners' psychological well-being and quality of life during the Covid-19 virus [3]. Public health should line up proper diet during the Covid-19 to increase immunity and fight the Covid-19 virus. The habit of healthy eating and healthy foods can safeguard the population from a from an extreme inflammatory reaction to Covid-19[4]. The Covid-19 outbreak was thought to pose significant economic and health dangers over the world. Most everyday behaviours, including eating habits, food choices, and preferences, have changed as a result of the epidemic. Mineral and vitamin deficiencies can cause a weaker immune system, making you more susceptible to disease [5]. The severity of the illness is determined by the nutritional state of the person who is infected. As a result, careful individualised evaluation of nutritional, dietary, and lifestyle changes, as well as micronutrient supplementation, is needed. Healthy diets not only strengthen the body's natural defences, improving immunity but also combines the Covid-19 virus [8]. The outbreaks of Covid-19 have run to enormous mitigation approaches to exterminate its spread. The majority of people's eating habits and diets have been drastically altered. Consumption of sufficient Healthy diets may be necessary to protect against the severe inflammatory reaction caused by SARS-Cov-2 infection. A well-balanced diet slows the growth of the disorder and enhances the Covid-19 responses. Nutrients such as selenium and zinc, vitamins E, D, and A, vital fatty acids, and fibres have all become essential in the prevention and effective operation of Covid-19. A healthy diet aids in the enhancement of the body's immune system, which efficiently combats sickness [6]. Inadequate dietary status and intake cause viral resistance to degrade, as well as an increase in Covid-19 morbidity and fatality rates [3]. Vitamin A is also involved in the production of natural killer cells and immunoreactive cytokines, as well as the proliferation of T lymphocytes [3].

## DIET INFLUENCING IMMUNITY

Vitamins E and D, on the other hand, govern the immune system, whereas fibres promote microbiota change, which

has a positive influence on the immune system. Selenium and zinc work by reducing flu symptoms and indications that are prevalent during Covid-19[10]. Essential fatty acids, on the other hand, help to regulate infections, inflammation, and the production of antibodies and hormones [4].

## DIFFERENT ORGANIZATIONS' ROLES IN PROMOTING HEALTHY EATING

The start of Covid-19 brought with it a slew of food-related issues, including capacity limitations and shorter shopping hours at the grocery store. Eat Well Saskatchewan [EWS] launched a four-month social media campaign with the hashtag #eatwellcovid19. Nutrition and dietician students led the EWS campaign, which focused on distributing reports from the Saskatchewan community on healthy eating habits during Covid-19. The number of people who followed the EWS on social media increased, demonstrating that it is a successful health promotion technique for the general public [11]. The Covid-19 crisis has facilitated the adoption of healthy-living activities. Maintaining Healthy diets is essential for enhancing the immune system and general wellness. To ensure enough important nutrient consumption, it is necessary to consume a variety of foods from each food category. Clients of Covid-19 are susceptible to a hyperinflammatory condition that has been associated to lung harm. Sarcopenia develops as a result of malnutrition during and after the Covid-19, worsening the inflammatory disease [15]. Furthermore, if not treated with proper nutrition, Covid-19 severe debilitation might worsen the illness load. Supplementing with amino acids can help to reduce inflammation and speed up healing time [12].

More research shows that Healthy diets are required to improve Covid-19 results. Malnutrition has a negative influence on the immune system, making it less effective at fighting viruses [13]. Covid-19 and nutritional health are linked, and patients should keep their Healthy diets to optimise recovery, avoid complications, and lower the rate of mortality and morbidity [5].

## INITIATIVES IN PUBLIC HEALTH

It needs knowledge of biological and medical sciences, as well as humanities areas like as behavioural and social study including lifestyle changes and the adoption of Healthy diets practises. According to Missouri *et al.*, un-Healthy diets increase the likelihood of developing obesity, which can lead to consequences such as cardiovascular disease and diabetes, which can lead to significant health problems [8]. Complications of Covid-19. As a result, it's critical to have a well-balanced diet rich in Healthy diets-containing vegetables and fruits, which supply micronutrients critical for immunological function, especially during the Covid-19 crisis.

Calder *et al.* also point out that diet has a substantial impact on the immune system [17]. Vitamins, trace minerals, and fatty acids like omega-3 all help to strengthen the immune system. Inadequate nutrition, on the other hand, reduces resistance to viral infections and increases disease mortality and morbidity. Nutritional guidelines and practises are being used by public health practitioners to boost public health [16].

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### **HOW DOES DIET AFFECT THE HEALTH OF THE GENERAL PUBLIC?**

Laviano *et al.* also claim that nutritional status is an important factor of public health. Furthermore, diet is an important part of addressing life-threatening illnesses like Covid-19, which is doing havoc on the world's health. As a result, Healthy diets are a critical component in directly boosting Covid-19 results[19]. Furthermore, because Covid-19 swiftly progresses from cough to respiratory failure, dietary treatments are critical to avoid illness development. Zinc and vitamins C and C, according to Zabetakis *et al.*, are useful in the treatment of Covid-19. Furthermore, antithrombotic, antioxidant, and anti-inflammatory diets may help to reduce or avoid the virus's vascular and inflammatory effects.

### **THE IMPACT OF DIET DURING PANDEMIC**

As a result, it is critical to adopt Healthy diets and avoid un Healthy diets, such as Western diets, in order to reap the benefits of the epidemic. Healthy and balanced diets, according to Jayawardena *et al.*, help to promote immunity, which is important in the prevention and treatment of viral diseases like Covid-19. During the pandemic, selenium, zinc, and vitamins D and A supplementation are critical. Probiotics and nutraceuticals can also help fight infections by boosting immunity. As a result, in the Covid-19 epidemic, malnutrition need specialist nutritional therapy[20]. Furthermore, de Faria Coelho-Ravagnani *et al.* claim that optimal diets can improve health and reduce Covid-19-related mortality and morbidity. To maintain a healthy immune system, a high consumption of whole grains, vegetables, fruits, vitamins, and minerals is recommended.

Furthermore, vegetables and fruits are beneficial diets for strengthening immune systems and eradicating the covid-19 serious problem in vulnerable groups, such as those with cardiovascular disease and diabetes. According to Mattioli *et*

*al.*, a global action encourages physical activity, and Healthy diets are critical in motivating people to adopt healthy lifestyles following Covid-19. Furthermore, Rodriguez-Perez *et al.* believe that consuming more legumes, fruits, and vegetables during the pandemic will help to avoid the virus and its effects. Moreover, nutritional supplements such as probiotics have been shown to improve immune function and reduce viral replication, which aids in the management of Covid-19. Furthermore, according to Naja and Hamadeh, the nutritional status has been recognised as an effective resistance to destabilizers such as Covid-19. To optimise Covid-19 results, Fernández-Quintela *et al.* emphasise that optimum consumption of all necessary nutrients, particularly those that boost immunological function, must be provided through diversified healthy and balanced diets. Inflammatory responses in Covid-19 are reduced by eating natural bioactive foods. Zinc deficiency impairs immune function and is a critical determinant of antiviral immunity. It can produce both acquired and innate antiviral immune responses. Zinc has anti-inflammatory and antioxidant properties as well. According to Mishra and Patel, macronutrients' immune-strengthening properties aid in the fight against Covid-19 illness [22]. Plant-based diets were connected to lower risks and lower severity of Covid-19[22]. Covid-19 lockdowns have also led to favourable eating behaviours, such as an increase in preparing meals. Further study suggests that consuming Healthy diets reduces the negative effects of confinement, such as depression. Furthermore, Bakhsh *et al.* claim that the Covid-19 problem has driven governments throughout the world to implement strict national lockdown policies, which have altered global lifestyle and food practices. The majority of people have adopted the practice of preparing their meals, bringing in a well-balanced diet. Additionally, increasing fruit and vegetable consumption might help people live healthier lives. Moscatelli *et al.* also believe that dietary supplementation is necessary for optimal immunological results, such as improved cell function and resistance to Covid-19 [21].

### **COVID-19 OUTCOMES AND MOLECULAR LINK TO A HEALTHY DIET**

Healthy nutrition is critical in COVID-19 because it lowers disease-related death rates by boosting the individual's immune. The influence of innate immunity and adaptive immunity is frequently used to enhance immunity. The two basic lines of immunity must be strengthened in order for the individual to be able to fight infections more efficiently. Secondly, the body has the ability to create cytokines that aid in the fight against invading pathogens, such as viruses that

may infect the individual's body. The processes that underpin the molecular basis for an HD's participation in the avoidance of negative COVID outcomes are therefore revealed. As a result, good eating habits have played an essential role in improving illness outcomes. The existence of a concurrent epidemiologic association has been demonstrated by a number of epidemiologic studies that have convincingly demonstrated a link between healthy eating and lower death rates [33]. According to studies, patients who consume a nutritious diet have a much lower chance of death. In that population, the case fatality rate is usually lower than in the overall population. Immunity can be boosted through techniques such as vaccination, in addition to good eating habits. Vaccination is primarily used to strengthen an individual's immunity by improving the body's defensive capabilities.

## CONCLUSION

Finally, a well-balanced diet can help you stay healthy. Strong immunity defends the body against viruses and other germs. The immune system's ability to withstand illnesses is harmed by poor diet. Minerals and vitamins are necessary supplements that the body need in little amounts in order to function optimally. In order to defeat Covid-19, a healthy diet is essential.

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