Journal of Nutrition and Food Security
Shahid Sadoughi University of Medical Sciences
School of Public Health
Department of Nutrition
Nutrition & Food Security Research Center

eISSN: 2476-7425 pISSN: 2476-7417 JNFS 2021; 6(2): 98-100 Website: jnfs.ssu.ac.ir

Nutrition during COVID-19

Ameneh Marzban; MSc[*1], Farahnaz Khabiri; MSc [2] & Zainab Anbari Nogyni; MSc [3]

[1] *Department of Human Ecology, School of Public Health, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.*
[2] *Department of Health Education and Promotion, School of Public Health, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.*
[3] *Department of Aging Health, School of Public Health, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.*

ARTICLE INFO

EDITORIAL ARTICLE

Article history:
Received:19Feb 2021
Revised: 10 Mar 2021
Accepted: 10 Mar 2021

Corresponding author
amenemarzban@yahoo.com
Department of Human Ecology, School of Public Health, Shahid Sadoughi of Medical Sciences, Yazd, Iran.

Postal code: 891-697847
Tel: +98-9172458896

Introduction

In December 2019, a new strain of the corona virus, as a subset of coronaviruses was identified for the first time in Wuhan, China. Symptoms included fever, cough, and muscle aches that are very similar to the seasonal flu.

Various strategies such as application of vaccines and antibiotics have been used to prevent and treat the disease. However, controlling the infection has not been sufficient. Some of the most fundamental questions in this regard include: 'What is the role of nutrition in COVID-19 condition?' and 'How dietary supplements can play a role in the incidence or improvement of this disease?'

It is well established that diet plays a major role in the function and status of immune system and it is closely related to the host's immunity and resistance to any infectious agent. Malnutrition is the most common cause of failure in immune system worldwide. The function of phagocytosis, complement system, cytokine production, and secretion of immunoglobulin antibodies are generally associated with protein and energy malnutrition (Martindale *et al.*, 2020). People with COVID-19 need adequate nutritional support due to a weakened immune system and severe loss of appetite (Stachowska *et al.*, 2020). The best diet recommended for patients with COVID-19 includes soup, high-protein, and high-calorie diet. Of course, this diet is for patients who have the ability to chew and swallow; special diets are used for other patients (Chapple *et al.*, 2020).

In general, drinking enough fluids is an effective step in controlling the disease. Intake of water, juices, teas, and soups at the onset of symptoms is also recommended (Pillay *et al.*, 2020). Given that taking liquid compounds requires less energy, the body saves enough energy to fight the disease. Fluids help dilute secretions, eliminate toxins, and relieve sore throats. Other important compounds in the fight against this disease include adequate intake of micronutrients effective in the immune system

This paper should be cited as: Marzban A, Khabiri F, Anbari Nogyni Z. ***Nutrition during COVID-19.*** *Journal of Nutrition and Food Security (JNFS)*, 2021; 6 (2): 98-100.

[Downloaded from jnfs.ssu.ac.ir on 2026-10-12]
[DOR: 20.1001.1.24767417.2021.6.2.12.6]
[DOI: 10.18502/jnfs.v6i2.6059]

such as vitamin C, vitamins B6, E, D, zinc, magnesium, selenium and omega 3, especially from food sources rich in these compounds (Walsh *et al.*, 2020).

Immune system cells are rich in vitamin C, but the supply of vitamin C to the affected cells increases under stress conditions, which in turn justifies the increased need for vitamin C in conditions of disease and inflammation. Experts believe that vitamin C plays an important role in strengthening the immune system by preventing and controlling the disease (Garófolo *et al.*, 2020).

Macronutrients, micronutrients, and phytonutrients, mainly found in colorful fruits and vegetables, generally promote healthy immune responses. These micronutrients regulate antioxidants and anti-inflammatory nutrients, including beta-carotene, vitamin C, vitamin E, and polyphenolic compounds as well as immune function. An anti-inflammatory strategy, whether containing food, nutrients, or medications, is a good option for managing COVID-19.

Recommendations

-Observing diversity and balance in the diet plan and using all 6 food groups, including bread and cereals with emphasis on whole grains and breads, different types of sprouts, fruits, and vegetables (Bezerra, 2020).

- Consuming main meals and snacks regularly throughout the day with an emphasis on breakfast.

-Supplying the needed daily protein, especially through eggs, white meat, and legumes.

-Taking the recommended supplements such as vitamin D according to the protocols for different age groups

-Using iron-rich foods such as meats and legumes (Misra, 2020).

-Avoiding sugary drinks, sugary foods, and simple sugars since they weaken the immune system. In general, sugar consumption should be reduced and natural sweeteners such as honey (with immune-boosting and cough suppressing properties) or raisins (red raisins) with anti-inflammatory properties, should be used (Caccialanza *et al.*, 2020).

-Incorporating low-salt or low-salt nuts into the diet is also good for boosting the immune system. Nuts are a good source of vitamin E, zinc, and selenium. Of course, they should not be consumed excessively because they contain large amounts of fat and cause weight gain and obesity (Ammar *et al.*, 2020).

-Avoiding high consumption of fast foods, processed meats, and fried foods since these foods are high in salt, trans and saturated fatty acids and are bad for the health and function of the immune system (Stachowska *et al.*, 2020).

-Using a variety of liquid (vegetable) oils such as canola oil, sesame, corn, sunflower, soybean, and olive oil in salads and foods. These substances also contain omega-3; so, they are recommended to be consumed within the required energy range. In general, 25 to 30% of the daily energy needs should be provided by fats and oils. Excessive consumption of oil and fat in addition to overweight and obesity increases the risk of cardiovascular diseases. Liquid vegetable oils also contain vitamin E, which is involved in strengthening the immune system (Caccialanza *et al.*, 2020).

Nutrition during COVID-19 is different from nutrition in normal situations. In addition to meeting daily needs, individuals should pay attention to the changes caused by the disease in their body. These changes can include a wide range of changes, including loss of appetite, decreased sense of smell and taste, inability to chew and swallow, weakness due to illness, reluctance to eat certain foods, and other changes depending on the severity and duration of the illness. Therefore, in patients' nutrition, the patients' condition should be examined and their diet plans should be prepared according to their condition.

Authors' contributions

Marzban A conceived the original idea and designed the project. Khabiri F and Anbari-Nogyni Z collected the data and wrote the draft of

[Downloaded from jnfs.ssu.ac.ir on 2026-10-12]

[DOR: 20.1001.1.24767417.2021.6.2.12.6]
[DOI: 10.18502/jnfs.v6i2.6059]

manuscript. All authors read and approved the final version of manuscript.

References

Ammar A, et al. 2020. Effects of COVID-19 home confinement on eating behaviour and physical activity: results of the ECLB-COVID-19 international online survey. *Nutrients.* **12 (6)**: 1583.

Bezerra IN 2020. Away-from-home food during coronavirus pandemic. *Public health nutrition.* **23 (10)**: 1855-1855.

Caccialanza R, et al. 2020. Early nutritional supplementation in non-critically ill patients hospitalized for the 2019 novel coronavirus disease (COVID-19): Rationale and feasibility of a shared pragmatic protocol. *Nutrition.* **74**: 110835.

Chapple LaS, et al. 2020. Nutrition management for critically and acutely unwell hospitalised patients with coronavirus disease 2019 (COVID- 19) in Australia and New Zealand. *Nutrition & dietetics.* **77 (4)**: 426-436.

Garófolo A, Qiao L & Maia-Lemos PdS 2020. Approach to nutrition in Cancer patients in the context of the coronavirus disease 2019 (COVID-19) pandemic: perspectives. *Nutrition and cancer.* 1-9.

Martindale R, et al. 2020. Nutrition therapy in critically ill patients with coronavirus disease 2019. *Journal of parenteral and enteral nutrition.* **44 (7)**: 1174-1184.

Misra A 2020. Balanced nutrition is needed in times of COVID-19 epidemic in India: a Call for Action for all nutritionists and physicians. *Diabetes & metabolic syndrome.* **14 (6)**: 1747–1750.

Pillay L, et al. 2020. Nowhere to hide: The significant impact of coronavirus disease 2019 (COVID-19) measures on elite and semi-elite South African athletes. *Journal of science and medicine in sport.* **23 (7)**: 670-679.

Stachowska E, Folwarski M, Jamioł-Milc D, Maciejewska D & Skonieczna-Żydecka K 2020. Nutritional support in coronavirus 2019 disease. *Medicina.* **56 (6)**: 289.

Walsh CM, Fishman DS, Lerner DG & Committee P 2020. Pediatric endoscopy in the era of coronavirus disease 2019: a North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition position paper. *Journal of pediatric gastroenterology and nutrition.* **70 (6)**: 741.

[Downloaded from jnfs.ssu.ac.ir on 2026-10-12]

[DOR: 20.1001.1.24767417.2021.6.2.12.6]

[DOI: 10.18502/jnfs.v6i2.6059]