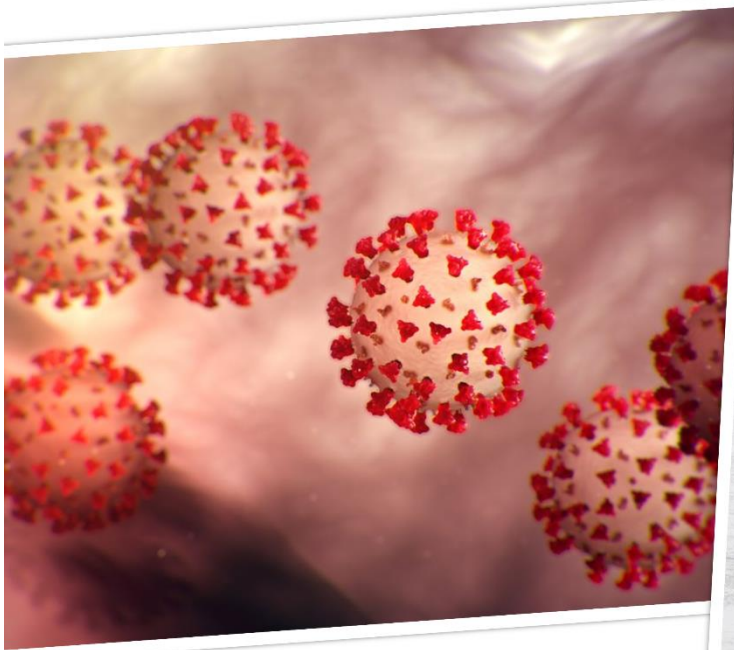




**THALASSAEMIA  
INTERNATIONAL  
FEDERATION**



# A Useful Health & Nutrition Short Guide for the COVID-19 Pandemic

*Version 2 (30 March 2020)*

**By Dr Anastasios Giakoumis**

**Medical Advisor, Thalassaemia International Federation**

*Edited by: Dr Michael Angastiniotis, Medical Advisor and Ms. Eleni Antoniou, Senior Policy Officer,  
Thalassaemia International Federation*

## INTRODUCTION

The COVID-19 pandemic has changed our world with devastating speed and none of us can completely eliminate the risk of getting infected. Eating a healthy diet, being physically active, managing stress and getting enough sleep may support the maintenance of health in both children and adults, and can be our first line of anti-viral defence. Nonetheless, there are no scientifically proven direct links between a healthy lifestyle and enhanced immune function<sup>1</sup>. Therefore, strict hygiene measures must be taken, along with social distancing and quarantine protocols, as adopted in each country and recommended by the World Health Organization.

### Protecting yourself and others from COVID-19



**Wash your hands** well & frequently



**Avoid touching** your eyes, nose and mouth





**Cover your mouth when coughing** using the bend of your elbow or a tissue

**Stay at home** and strictly follow the guidelines issued by your national authorities





If you have a fever, cough and difficulty breathing, seek medical care immediately - but **call first**

**Keep social distancing** at all times





**Get information from trusted sources**



Source: World Health Organization

Given that there is no diet to prevent COVID-19, the present Short Guide presents **overall supportive nutrition strategies** to help you keep your immune system strong and healthy. Keep in mind that you cannot “boost” your immune system through diet only and that no specific food, “superfood” or supplement will prevent you from being infected with COVID-19. These are simple recommendations for the improvement of your wellbeing and overall health condition and protect you from potential severe or adverse symptoms.

For more details on how to prevent COVID-19 from spreading, please consult the website of the World Health Organization and follow the guidelines issued by the national authorities of your country.

<sup>1</sup> <https://www.health.harvard.edu/staying-healthy/how-to-boost-your-immune-system>

---

## WHAT TO DO

---

The following healthy-living strategies, which are by no means treatment modalities or exhaustive guidelines, will help your immune system function better and stay protected from environmental assaults:



### Drink enough water every day

- Make sure to be sufficiently hydrated with **2-3 liters of water consumed throughout the day**.
- If you come to drink water because you are thirsty, this means that you are already dehydrated.



### Rest regularly and **sleep at least 7-8 hours daily**.



### Exercise but non-exhaustively

e.g. a half-hour walk, 3 days a week.



### Maintain a **normal body weight** through a balanced diet.

Especially these days you should often **consume small and light meals**. Hot soups, such as chicken soup, and hot honey drinks are nutritious and beneficial choices.



### Manage **stress effectively**, as it weakens your immune system.



### Manage **chronic illnesses** that are debilitating, as best as possible

e.g. blood disorders, cardiopulmonary disease and diabetes



### Avoid alcohol & Stop smoking

Alcohol use and especially heavy use undermines your body's ability to cope with infectious disease, including COVID-19. Also, the new coronavirus can cause severe respiratory infections to which smokers are more susceptible, due to their respiratory system having already been affected by smoking.



### Think positive

Stay busy and engaged in a number of activities. Keep in mind that you are not alone in this.

## WHAT TO EAT

Good nutrition is crucial for health, particularly in times when the immune system might need to fight back. People with chronic conditions, including haemoglobin disorders, have certain dietary needs and need to follow particular guidelines, as provided by their attending physicians, along with a well-balanced diet. The World Health Organization recommends that you should eat a variety of fresh and unprocessed foods every day to get the vitamins, minerals, dietary fibre, protein and antioxidants your body needs. You also need to drink enough water, avoid sugar, fat and salt to significantly lower your risk of overweight, obesity, heart disease, stroke, diabetes and certain types of cancer<sup>2</sup>:

### Eat fresh and unprocessed foods every day



- Eat fruits, vegetables, legumes (e.g. lentils, beans), nuts and whole grains (e.g. unprocessed maize, millet, oats, wheat, brown rice or starchy tubers or roots such as potato, yam, taro or cassava), and foods from animal sources (e.g. meat, fish, eggs and milk)
- Daily, eat: 2 cups of fruit (4 servings), 2.5 cups of vegetables (5 servings), 180 g of grains, and 160 g of meat and beans (red meat can be eaten 1–2 times per week, and poultry 2–3 times per week)
- For snacks, choose raw vegetables and fresh fruit rather than foods that are high in sugar, fat or salt
- Do not overcook vegetables and fruit as this can lead to the loss of important vitamins.
- When using canned or dried vegetables and fruit, choose varieties without added salt or sugar.

### Eat moderate amounts of fat and oil



- Consume unsaturated fats (e.g. found in fish, avocado, nuts, olive oil, soy, canola, sunflower and corn oils) rather than saturated fats (e.g. found in fatty meat, butter, palm and coconut oils, cream, cheese, ghee and lard).
- Choose white meat (e.g. poultry) and fish, which are generally low in fat, rather than red meat.
- Avoid processed meats because they are high in fat and salt.
- Where possible, opt for low-fat or reduced-fat versions of milk and dairy products.
- Avoid industrially produced trans fats. These are often found in processed food, fast food, snack food, fried food, frozen pizza, pies, cookies, margarines and spreads.

### Eat less salt and sugar



- When cooking and preparing food, limit the amount of salt and high-sodium condiments (e.g. soy sauce and fish sauce).
- Limit your daily salt intake to less than 5 g (approximately 1 teaspoon), and use iodized salt.
- Avoid foods (e.g. snacks) that are high in salt and sugar.
- Limit your intake of soft drinks or sodas and other drinks that are high in sugar (e.g. fruit juices, fruit juice concentrates and syrups, flavoured milks and yogurt drinks).
- Choose fresh fruits instead of sweet snacks such as cookies, cakes and chocolate.

<sup>2</sup> <http://www.emro.who.int/nutrition/nutrition-infocus/nutrition-advice-for-adults-during-the-covid-19-outbreak.html>

There are some types of food that are known or believed to provide your body with the necessary vitamins, minerals and antioxidants.

These include:



**Citrus fruit** in modest quantities and their freshly squeezed juice, which are antioxidant and rich in Vitamin C and hesperidin, a bioflavonoid which appears to inhibit the activity of successive virus divisions



**Celery, broccoli, cauliflower, green peppers, parsley, dandelion, carrots, olive oil, mint and rosemary**, with the same beneficial mechanism of action as above



**Dairy products**, which are rich in vitamin D



**Legumes, seeds and nuts**, a natural source of zinc, which is proven to support the immune system



**Green tea and chamomile**, which contain the natural antioxidant catechin









**Sardine and mackerel** in modest amounts (due to high salt content), in which omega-3 fatty acids and vitamin D are abundant



Finally, **probiotics** (lactobacilli and bifidobacteria) and **echinacea** (purple coneflower) have been shown to benefit the body against viruses, but taking them requires the consent of your family doctor.

Keep in mind the nutritional specificities of transfusion-dependent patients, as set out in TIF’s Guidelines for the Management of Transfusion-Dependent Thalassaemia (p. 227):

| Vitamin/<br>Mineral  | Importance for transfusion-<br>dependent patients   | Foods rich in each category   |
|--|---|---|
| <p>Zinc</p>                         | <ul style="list-style-type: none"> <li>▪ Zinc is an essential element which in thalassaemia can be either removed by iron chelating drugs, as well as from inadequate dietary intake or poor absorption.</li> <li>▪ Zinc deficiency has been shown to affect growth and sexual maturation, and may also cause hair loss, diarrhoea, skin disorders, and loss of appetite.</li> <li>▪ Caution is however needed for high doses, as toxicity can occur – including gastrointestinal irritation, as well as interactions with other minerals and drugs.</li> </ul> | <ol style="list-style-type: none"> <li>1. Oysters</li> <li>2. Beef chuck roast</li> <li>3. Crab</li> <li>4. Beef patty</li> <li>5. Lobster</li> <li>6. Pork chop</li> <li>7. Baked beans</li> <li>8. Chicken</li> <li>9. Pumpkin seeds</li> <li>10. Yogurt</li> </ol> <p>Source: <a href="https://ods.od.nih.gov/factsheets/Zinc-HealthProfessional/">https://ods.od.nih.gov/factsheets/Zinc-HealthProfessional/</a></p>  |
| <p>Iron</p>                       | <ul style="list-style-type: none"> <li>▪ <b>The dietary restriction of iron is important.</b></li> </ul>  | <ul style="list-style-type: none"> <li>▪ Taking black tea with meals may reduce iron absorption</li> <li>▪ Foods rich in vitamin C will increase absorption.</li> </ul>   |
| <p>Calcium and<br/>Vitamin D</p>  | <ul style="list-style-type: none"> <li>▪ Calcium and vitamin D are the most commonly prescribed supplements for thalassaemia patients.</li> <li>▪ Deficiency results in poor bone mineralisation, which contributes to thalassaemic bone disease. Deficiency is also associated with muscle weakness, and more importantly can affect the heart muscle, causing left ventricular dysfunction associated with cardiac iron uptake</li> </ul>   | <ol style="list-style-type: none"> <li>1. Cod liver oil</li> <li>2. Swordfish</li> <li>3. Tuna fish</li> <li>4. Orange juice (fortified and 100% juice)</li> <li>5. Milk</li> <li>6. Yogurt</li> <li>7. Sardines</li> <li>8. Beef liver</li> <li>9. Egg</li> <li>10. Ready-to-eat cereals (whole grain cereals)</li> </ol> <p>Source: <a href="https://ods.od.nih.gov/factsheets/VitaminD-HealthProfessional/#change">https://ods.od.nih.gov/factsheets/VitaminD-HealthProfessional/#change</a></p> |

|   |  |  |
|---|--|--|
| <p><b>Folic Acid</b></p>   | <ul style="list-style-type: none"> <li>There are possible benefits from folic acid supplementation in reducing risks of thrombosis.</li> </ul>   | <ol style="list-style-type: none"> <li>Broccoli</li> <li>Brussels sprouts</li> <li>Liver (to be avoided during pregnancy)</li> <li>Leafy green vegetables, such as cabbage and spinach</li> <li>Peas</li> <li>Chickpeas</li> <li>Breakfast cereals fortified with folic acid</li> </ol> <p>Source: <a href="https://www.nhs.uk/conditions/vitamins-and-minerals/vitamin-b/">https://www.nhs.uk/conditions/vitamins-and-minerals/vitamin-b/</a></p> |
| <p><b>Vitamin E</b></p>   | <ul style="list-style-type: none"> <li>Vitamin E is a fat-soluble vitamin which is often depleted in thalassaemia patients.</li> <li>Prolonged use, especially at high doses, has potential dangers and more extensive trials are therefore needed in thalassaemia.</li> <li>However, a diet rich in foods that contain Vitamin E can be recommended.</li> </ul> | <ol style="list-style-type: none"> <li>Wheat germ</li> <li>Sunflower seeds</li> <li>Almonds</li> <li>Sunflower oil</li> <li>Safflower oil</li> <li>Hazelnuts</li> <li>Peanut butter</li> <li>Peanuts</li> <li>Corn oil</li> <li>Spinach</li> </ol> <p>Source: <a href="https://ods.od.nih.gov/factsheets/VitaminE-HealthProfessional/">https://ods.od.nih.gov/factsheets/VitaminE-HealthProfessional/</a></p>                                      |
| <p><b>Vitamin C</b></p>  | <ul style="list-style-type: none"> <li>Vitamin C is known to promote the absorption of dietary iron, and even regularly transfused patients should control their intake of iron.</li> <li>Vitamin C increases labile iron and therefore <b>contributes to iron toxicity</b>.</li> </ul>  | <ol style="list-style-type: none"> <li>Red pepper</li> <li>Orange</li> <li>Kiwi</li> <li>Broccoli</li> <li>Strawberries</li> <li>Brussels sprouts</li> <li>Grapefruit</li> <li>Cantaloupe</li> <li>Cabbage</li> <li>Cauliflower</li> </ol> <p>Source: <a href="https://ods.od.nih.gov/factsheets/VitaminC-HealthProfessional/">https://ods.od.nih.gov/factsheets/VitaminC-HealthProfessional/</a></p>  |

---

## **USEFUL RESOURCES**

---

### **TIF's Guidelines for the Management of Transfusion-Dependent Thalassaemia**

[https://thalassaemia.org.cy/wp-content/uploads/2017/08/GuidelinesTDT\\_English.pdf](https://thalassaemia.org.cy/wp-content/uploads/2017/08/GuidelinesTDT_English.pdf)

### **World Health Organization**

<http://www.euro.who.int/ru/health-topics/health-emergencies/coronavirus-covid-19/novel-coronavirus-2019-ncov-technical-guidance/food-and-nutrition-tips-during-self-quarantine#general-tips>

<http://www.emro.who.int/nutrition/nutrition-infocus/nutrition-advice-for-adults-during-the-covid-19-outbreak.html>

### **Harvard Medical School**

<https://www.health.harvard.edu/staying-healthy/how-to-boost-your-immune-system>

### **Guidance Summary for Nutrition in Emergencies (NiE) Practitioners**

[http://nutritioncluster.net/?get=008342|2020/03/2020-GTAM-COVID-19-Technical-Brief-Version-1.1\\_FINAL.pdf](http://nutritioncluster.net/?get=008342|2020/03/2020-GTAM-COVID-19-Technical-Brief-Version-1.1_FINAL.pdf)

### **British Dietetic Association**

<https://www.bda.uk.com/resource/covid-19-corona-virus-advice-for-the-general-public.html>

---

**TIF tries to help you keep healthy and fit!**

**Discuss the above information with your peers, family and treating physician.  
Your ideas, comments and experience with these nutritional tips will be very  
welcome.**

**TIF keeps an open line with its global patient  
community at all times through email communication at:  
[TIF-COVID19@thalassaemia.org.cy](mailto:TIF-COVID19@thalassaemia.org.cy)**

---