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NEWSLETTER
a health-e view

Nutritional Support for Immunity Against Viruses Including the Coronavirus

Overview as at 11th March 2020 (Reading Time: 13 minutes)

Our editorial is unapologetically longer than normal. If you want the core details scroll to the end, otherwise we hope you find the information useful.

Dear Mashhood,

Sustained human-to-human transmission of the novel coronavirus in the United Kingdom and elsewhere appears today inevitable. The extent and impact of the outbreak in the UK is difficult to predict and will depend crucially on how the Government, medical professionals, and the public react. It will depend particularly on whether there is adequate funding and support for the response; fair and effective management of surging health care demand; careful and evidence-based mitigation of public fear; and necessary support and resources for fair and effective infection control. It also falls to each individual to take appropriate and regular self-defence steps, maintain a suitable level of self-hygiene and limit exposure to potential and actual vectors. The most effective way to protect against Covid-19 is to minimise encounters with other people and if possible keep two metres away when you do meet. Clean your hands frequently, keep them away from your face and cover coughs and sneezes with the bend of your elbow or a tissue.

The Covid-19 outbreak is unprecedented in the recent UK and global history (since 1918), and there is no current playbook for an epidemiological event of this scope and magnitude. To mitigate its

impact, the government must act swiftly, fairly, and effectively. For up to date data visit https://www.worldometers.info/coronavirus. Flattening the curve — slowing the spread of Covid-19 across space and time — is critical. The health care system cannot sustain a massive influx of infectious cases to emergency departments and hospitals. Patients with mild symptoms should stay home when possible and seek to maintain their personal health and hygiene. In public health practice, "quarantine" refers to the separation of persons (or communities) who have been exposed to an infectious disease. "Isolation," in contrast, applies to the separation of persons who are known to be infected.

Introduction

The name coronavirus comes from the microscopic view as the virus looks like it has a crown with protein 'spikes'. The novel virus is now termed SARS CoV-2 (which stands for severe acute respiratory syndrome coronavirus 2). When SARS-CoV-2 was first identified it was called 2019 novel coronavirus, or 2019-nCoV. SARS CoV-2 causes a disease called Covid -19 (for Corona Virus Disease started in 2019) similar to influenza virus causing the flu.

There are currently (as at the date of publication) no vaccines or other drugs that have shown clear and consistent benefits in treating Covid -19, but numerous trials in different countries are underway, with a case report from the USA and Italy suggesting that remdesivir may reduce symptoms and aid recovery. Thailand claims to have cured some patients with a combination of the dual HIV antivirals ritonavir-lopinavir (but a paper in the NEJM suggests that this is not an effective combination) and Tamiflu. China has also approved the antiviral favilavir for use in coronavirus. Roche has secured approval from China for its anti-inflammation drug Actemra (tocilizumab) to treat patients developing severe complications from Covid-19, its mechanism of action is to block IL6 and potentially manage the 'cytokine storm' risk. A paper from France with 24 patients showed that chloroquine and hydroxychloroquine have been found to be efficient on SARS-CoV-2, and was also reported to be efficient in Chinese COV-19 patients. The research team, led by Didier Raoult, a renowned infectious disease expert from l'Institut Hospitalo-Universitaire in Marseille, administered the drug for 10 days along with azithromycin, a common antibiotic.

Conventional medical advice is to isolate, rest and hydrate, which is the same advice given to those with a seasonal cold or flu. The BMJ has advised against the use of the NSAID drug, ibuprofen in people showing symptoms of Covid-19 and recommends they should use paracetamol (acetaminophen) rather than ibuprofen, a drug they said might exacerbate the condition. For those hospitalised and exhibiting respiratory distress, the use of ventilators and IV hydration drips are the most likely treatment pathways.

Nutritional Supplementation

In addition to a wholefood diet that excludes refined, processed foods and sugar, targeted and specific nutritional support is one of the ways to strengthen and optimise mucosal immunity to help prevent or address any viral infection. There are other core lifestyle behaviours in which to engage such as appropriate exercise, enough sleep, sound handwashing with soap and water, or sanitiser, general hygiene and social distancing.

However, the focus of this article is on the key nutrients to consider supporting natural anti-viral immunity.

We, at Nutri-Link, have collated information from existing peer reviewed papers on PubMed, and other organisations such as The Complementary Medical Association (CMA), the Orthomolecular Medicine News Service OMNS) in the US, the British Society for Ecological Medicine (BSEM NEWS February 2020) and the BMJ whom we thank and acknowledge for their advice on what action to

consider overall and also for the individual to improve immunity which could complement any medical interventions.

Here, we present information on key nutrients and natural plant-derived substances, but this is by no means a complete list. However, it represents a robust summary of essential nutrients, plant concentrates and their role in human immunity versus viruses. Synergy is key as opposed to focusing or relying on a single agent.

Vitamin C

According to Andrew Saul, editor of Orthomolecular Medicine News Service (OMNS) on January 26, 2020, "the coronavirus pandemic can be dramatically slowed, or stopped, with the immediate widespread use of high doses of vitamin C. Physicians have demonstrated the powerful antiviral action of vitamin C for decades. There has been a lack of media coverage of this effective and successful approach against viruses in general, and coronavirus in particular.

It is very important to maximise the body's anti-oxidative capacity and natural immunity to prevent and minimise symptoms when a virus attacks the human body. The host environment is crucial. Preventing is obviously easier than treating severe illness. But treat serious illness seriously. Do not hesitate to seek medical attention. It is not an either-or choice. Vitamin C can be used right along with medicines when they are indicated."

"The basis for using high doses of vitamin C to prevent and combat virus-caused illness may be traced back to vitamin C's early success against polio, first reported in the late 1940s. (Klenner FR, 1949). Many people are unaware, even surprised, to learn this. Further clinical evidence built up over the decades, leading to an anti-virus protocol published in 1980. (Cathcart RF, 1980)

It is important to remember that preventing and treating respiratory infections with large amounts of vitamin C is well established. Those who believe that vitamin C generally has merit, but massive doses are ineffective or somehow harmful, will do well to read the original papers for themselves. To dismiss the work of these doctors simply because they had success so long ago sidesteps a more important question: Why has the benefit of their clinical experience not been presented to the public by responsible governmental authorities, especially in the face of a viral pandemic?" In China, a study is under way to see if high doses of vitamin C can help fight off COVID-19. Scientists at the Zhongnan Hospital of Wuhan University are testing its effects on 120 patients who have the virus, giving them daily infusions of 24g of vitamin C for seven days. Results have not yet been published.

Vitamin D

The studies clearly show that vitamin D is, undoubtedly, a key prohormone/nutrient which affects the immune response and has been shown in multiple studies to possess or stimulate anti-viral properties. Assessing vitamin D status and maintaining optimal serum levels should be considered in all but particularly ageing adults and children. Vit D supplementation to achieve normal levels along with micronutrients should be regarded as one of the essential factors which improve health overall and also supports our fight against infectious diseases.

Vitamin A

Vitamin A is a micronutrient that is crucial for maintaining vision, promoting growth and development, and protecting epithelium and mucus integrity in the body. It possesses anti-inflammatory effects because of its critical role in enhancing immune function. Vitamin A is involved in the development of the immune system and plays regulatory roles in cellular immune responses

and humoral immune processes. It has demonstrated a therapeutic effect in the treatment of various infectious diseases.

Consistent with the role of retinoic acid in cell growth and differentiation, viral growth is also regulated in part by vitamin A; viral activity in general is regulated by retinoids. Vitamin A and its active metabolites are likewise importantly involved in the growth and differentiation of mucosa-associated airway epithelia.

While vitamin A deficiency (VAD) is thought to be a disease of the developing world, studies suggest that subclinical VAD may be quite prevalent.

Zinc

Zinc is known to play a central role in the immune system, and zinc-deficient persons experience increased susceptibility to a variety of pathogens. Zinc is crucial for normal development and function of cells mediating nonspecific immunity such as neutrophils and natural killer cells.

Broadly, zinc exerts its antiviral effect by interfering with four stages of the viral life cycle, which includes loss of infectivity of the virus, inhibition of virus entry into the host, inhibition of viral polypeptide processing, and inhibition of the activity of viral protease and/or virally-encoded RNA-dependent RNA polymerase (RdRp).

Ensuring optimal zinc status with zinc supplementation is one contributory factor for strengthening immunity against viral infections.

Selenium

This trace mineral possesses anti-viral activity, as well as contributing to a reduction in Reactive Oxygen Species and Reactive Nitrogen Species (ROS & NOS). A lack of selenium increases vulnerability to infection from viruses as has been shown by studies across the world in the past decades from Cuba to China.

Humic acid

Sourced from specific soil in certain locations in the world, Humic acid inhibits all viruses. The Humic Acid with the most effective anti-viral activity is derived from fresh-water plants that is essentially ancient compost that is thousands of years old. Humic acid contains many kinds of “functional groups” (specific groups of atoms) that can bind to a multitude of viruses. Research has shown certain humic acids to be effective in vitro against all known viruses including influenza, HSV & HIV.

Olive Leaf extract

The main active constituents of olive oil include oleic acid, phenolic constituents, and squalene. The main phenolic compounds, hydroxytyrosol and oleuropein, give extra-virgin olive oil its bitter, pungent taste.

Oleuropein belongs to the secoiridoids, which are abundant in Oleaceae, Gentianaceae, Cornaleae, as well as many other plants. Iridoids and secoiridoids are compounds that are usually glycosidically bound and are produced from the secondary metabolism of terpenes as precursors of various indole alkaloids.

Studies have also shown that oleuropein exhibits a significant antiviral activity against respiratory syncytial virus and para-influenza type 3 virus.

S. Boulardii

This probiotic yeast supports secretory immunoglobulin A (sIgA), the major immunoglobulin of the innate immune system which protects against infectious agents. It has been very well studied and is one of the most well researched probiotic organisms on earth.

Summary Suggested Doses

Vitamin C: 3,000 milligrams (or more) daily, in divided doses.

Vitamin D3: 2,000 International Units daily. (Start with 5,000 IU/day for two weeks, then reduce to 2,000) consider having a test to determine needs. Further information can be found here

Vitamin A: 6,000 International Units daily.

Zinc: 20 mg daily

Selenium: 100 mcg (micrograms) daily

Humic Acid (specifically sourced): 375 mg twice daily

Olive Leaf extract (18% minimum oleuropin): 500 mg twice daily

Saccharomyces. Boulardii: 3 Billion thrice daily

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Translating the Suggested Supplement Dosing into specific products

Supplement name and brand	Preventive Dose
Bio C Plus 1000 (BRC) (850 mg Vit C)	2 tabs two to three times a day
Bio-D-Mulsion Forte (BRC) (2,000 iu per drop)	2-3 drops (4-6,000 iu) with dinner for 2 weeks, then 1 drop with dinner (2.000 iu)
Bio-Ae-Mulsion (BRC) (2,000 iu per drop)	3 drops with breakfast
BioProtect (BRC) (multi antiox)	1 with each meal (3 per day)
Zn-Zyme (BRC) (15mg per tab)	If taken with BioProtect: 1 tab with dinner If BioProtect is not taken: 1 tab with breakfast & dinner for one month, then reduce to 1 tab with dinner
Humic Acid (ARG) (375 mg per caps)	1 caps with breakfast & dinner
Prolive (ARG) (500 mg per tab)	1 with breakfast & dinner
S. Boulardii (ARG) (3B per caps)	1 with each meal

BRC = Biotics Research, ARG = Allergy Research

Dosing for Children

Supplement name and brand	Preventive Dose
Buffered Vitamin C powder (ARG)	1/8th tspn (0.6 gm) (250mg) one to two times a day
Bio-D-Mulsion Forte (BRC) (2,000 iu per drop)	1-2 drops (2-4,000 iu) with dinner for 2 weeks, then 1 drop with dinner (2.000 iu)
Bio-Ae-Mulsion (BRC) (2,000 iu per drop)	2-5 y.o. take 1 drop with breakfast 6-13 y.o. take 1-2 drops with breakfast
BioProtect (BRC) (multi antiox)	2-5 y.o. take 1 caps per day with food 6-13 y.o. take 1 caps twice daily with food
Zn-Zyme (BRC) (15mg per tab)	If taken with BioProtect, no extra zinc suggested for under 5 y.o. children. If taken with BioProtect, 5-13 y.o. take 1 tab with dinner
Humic Acid (ARG) (375 mg per caps)	2-5 y.o. take 1/2 caps per day with food 6-13 y.o. take 1 caps per day with food
Prolive (ARG) (500 mg per tab)	2-5 y.o. – not indicated 6-13 y.o. – take 1 tab per day with food
S. Boulardii (ARG) (3B per caps)	2-5 y.o. – ½ caps per day with food 6-13 y.o. – 1 caps per day with food

References can be found on our website:

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Mike and Antony

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