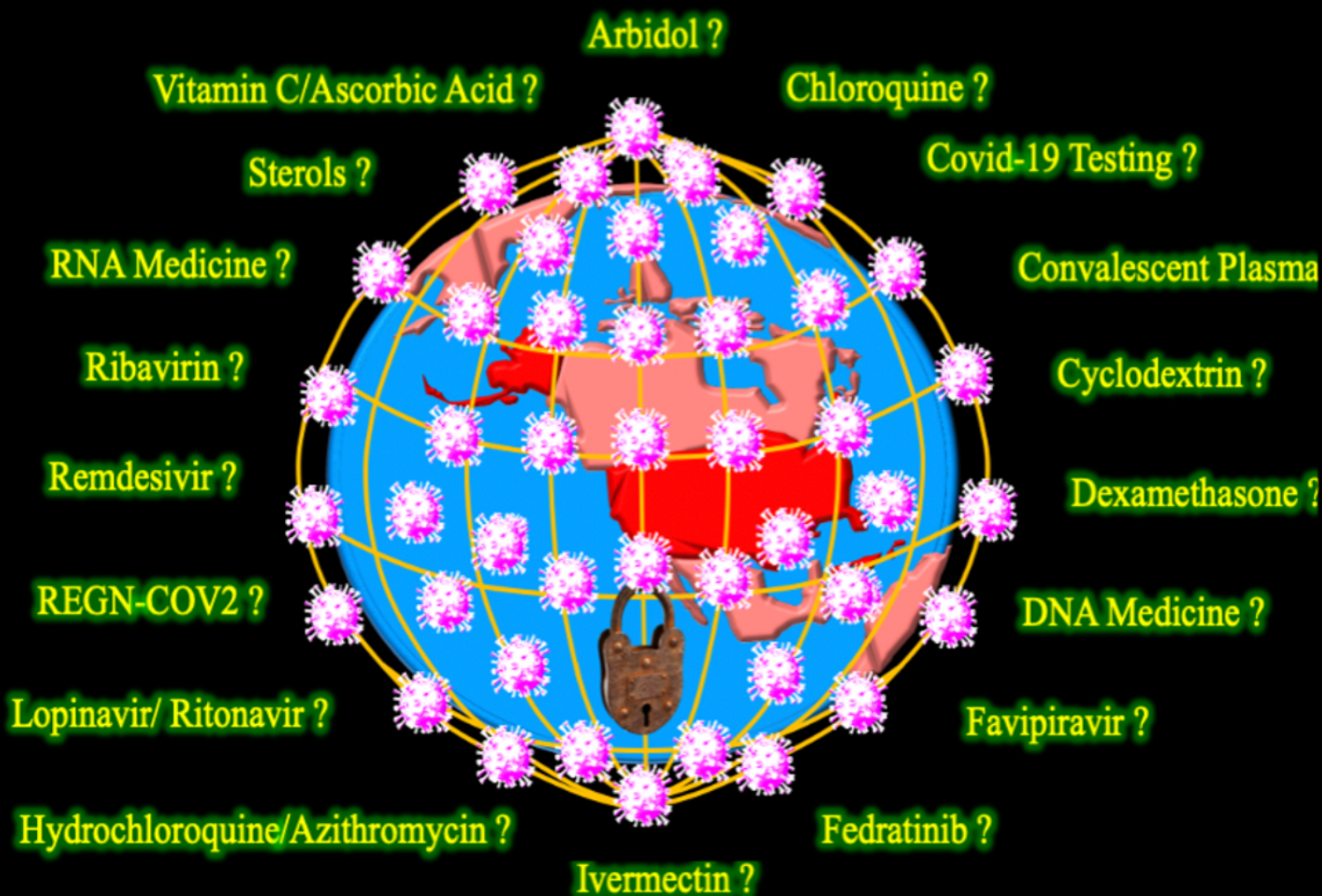




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Fear of coronavirus locks down the world
and resets activities on the earth

Our Nutritional and Wellness Strategy to tackle COVID 19

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COVID-19 would be by far the most talked about and cited word of our generation. Having being part of a largely safe and secure world, as compared to our ancestors, our generation has been jolted out of its comfort zone by this enigma – coronavirus. Although, we are inching closer each day to actually deciphering what this is – newer facts related to the coronavirus seem elusive than the ones before. Nevertheless, COVID-19 would keep the multidisciplinary scientific community engaged for a lengthened intellectually stimulating time, if I may, gainfully occupied.

Having said that, COVID-19 is everywhere, literally and metaphorically. It has been on people's minds as well as affecting world population ever since the first case of the novel Coronavirus was reported from Wuhan in December 2019. It has spread like wildfire since then affecting populations world over. It was declared a pandemic by WHO on 11th March 2020.

For us to tackle COVID-19 and develop a nutritional & wellness strategy it is imperative that we try to fully understand the nature of the pandemic and the virus. COVID-19 is an infectious disease caused by the novel coronavirus strain. This RNA virus belongs to the same class as those that caused SARS and MERS.

“Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people, and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness.” (World Health Organization)

Our strategy to combat COVID-19 should be like the three prongs of the fork, comprising the mind, body and soul of an individual. It should be based on logical and rational thinking, providing the right kind of nutrition to the body as well as cultivating the soul with positive thoughts. Besides its economic implications the world will have to face a food security crisis during the COVID-19 times as well, therefore besides, taking care of our health we must also give a thought about how to help people around us in need.

Nutrition

As the world awaits an effective vaccine, nutrition plays an important and safe role in helping mitigate patient morbidity and mortality. Ensuring proper nutrition and eating a well-balanced healthy diet is always important and especially crucial during the COVID-19 pandemic. Host nutritional status plays a pivotal role in the

outcome of a variety of different infectious diseases. It is known that the immune system is highly affected by malnutrition, leading to decreased immune responses with consequent augmented risk of infection and disease severity. The composition of our diet affects our body's ability to prevent, fight and recover from infections. While no foods or dietary supplements can prevent or cure COVID-19 infection, healthy diets are important for supporting immune systems. Besides eating the right foods, it is also very important to ensure safety of foods we eat.

Follow WHO's Five keys to safer food:

- Keep clean
- Separate raw and cooked
- Cook thoroughly
- Keep food at safe temperatures
- Use safe water and raw materials.

The Immune system of our body is responsible for protecting us from infections and fight dangers off. It is like our little army of warriors who tirelessly work to protect us from potential dangers and infections. There were a few studies providing direct evidence on associations between zinc, selenium, and vitamin D, and COVID-19. Adequate supply of zinc, selenium, and vitamin D is essential for resistance to other viral infections, immune function, and reduced inflammation. Hence, it is suggested that nutrition intervention securing an adequate status might protect against the novel coronavirus SARS-CoV-2 (Severe Acute Respiratory Syndrome - coronavirus-2) and mitigate the course of COVID-19. Some key nutrients to safeguard us from COVID-19 by boosting the immune system are discussed below:

Vitamin C

One of the most popular nutrients when it comes to fighting infections is Vitamin C. It supports the function of various immune cells and enhances their ability to protect against infection. It also has an important role in clearing out old wornout cells and replacing them with new ones thereby keeping the immune system healthy. It also functions as a powerful antioxidant, protecting against damage induced by oxidative stress, which occurs with the accumulation of reactive molecules known as free radicals. Good sources of Vitamin C are Amla (Indian Gooseberry), Oranges, Lemons, Sweet lime, Strawberries, Capsicum or bell peppers (All colours), Cauliflower, Broccoli and kale to name a few.

Vitamin D

Vitamin D is an essential fat-soluble nutrient which is crucial for calcium assimilation as well as smooth functioning of the immune system. It is also known to enhance pathogen-fighting effects of monocytes and macrophages and decrease inflammation, which helps promote immune response. A number of studies have cited a protective effect of adequate levels of Vitamin D against infection and mortality rates. Good sources of Vitamin D are Sunlight (our bodies can naturally make Vitamin D from sunlight), Mushrooms (as they too have the ability to synthesise Vitamin D from sunlight), milk, dairy products, yogurt, eggs, fatty fish, salmon, canned tuna, cod liver oil, oysters and fortified foods.

Vitamin E

Vitamin E, a potent lipid-soluble antioxidant, found in higher concentration in immune cells compared to other cells in blood, is one of the most effective nutrients known to modulate immune function. Vitamin E modulates T cell function through directly impacting T cell membrane integrity and also indirectly by affecting inflammatory mediators generated from other immune cells. Modulation of immune function by vitamin E has clinical relevance as it affects host susceptibility to infectious diseases such as respiratory infections and fights off infections.

Good sources of Vitamin E are nuts and oilseeds like wheat germ oil, almonds, hazelnuts, peanuts, cashew nuts, pistachios, pine nuts, sunflower seeds, spinach, avocado, kiwis, broccoli to name a few.

Vitamin A/ Carotenoids

Vitamin A is usually well known for a healthy vision and eye health is also now known as an anti-inflammation vitamin because of its critical role in enhancing the immune function. It is actively involved in the development of the immune system and plays regulatory roles in cellular immune responses which fights off infection.

Carotenoids, which are a precursor to Vitamin A, are also known for their antioxidant properties. They potentially reduce the toxic effects of ROS or free radicals which have been known to be contributing factor in diseases like cancer, heart ailments, neurodegenerative diseases as well as aging. Good food sources of carotenoids are apricots, asparagus, beef liver, beets, broccoli, cantaloupe, carrots, corn, guava, kale, mangoes, mustard and collard greens, nectarines, peaches, pink grapefruit, pumpkin, squash (yellow and winter), sweet potato, tangerines, tomatoes, and watermelon. Primary sources of Vitamin A in US diet are dairy products, liver, fish, and fortified cereals.

Zinc

It is needed for immune cell development and communication plus plays an important role in inflammatory response thereby an important micronutrient for strong immunity.

Good sources of Zinc are meat, shellfish, oysters, legumes and seeds.

Selenium

Selenium has been noted to have a significant influence on both types of immunity. B and T-lymphocytes are the major cells responsible for the immune functions.

Some good sources are nuts and oilseeds including brazil nuts, sunflower seeds, grains, eggs, mushrooms, shellfish, meat and fish.

Probiotics

The beneficial effects of probiotics on our general wellbeing and gut health cannot be undermined. But research also suggests that they play a major role in keeping our immune health robust. They give our immunity a boost by specially inhibiting the growth of harmful gut bacteria and promoting good bacteria. Additionally, some probiotics have been shown to promote the production of natural antibodies in the body. Good sources of probiotics are dahi, yogurt, curd, kefir, fermented foods which contain lactic acid bacteria like kimchi, sauerkraut, tempeh, natto to name a few.

Precautions

Studies have shown that by following proper precautions and personal hygiene one can prevent getting infected to a large extent. It is vital that we adhere to all necessary precautions to avoid getting infected with the coronavirus. These include, but not restricted to

- Avoiding going out as much as possible
- Staying home
- Working from home
- Always wearing a mask when stepping out or in contact with an outsider
- Washing hands frequently
- Using the hand sanitizer
- Maintaining social distancing
- When sneezing using the elbow to block it
- Avoid touching eyes, nose or face
- Disinfecting anything that comes to the house
- Using disinfectant sprays for packets and washing well with water for fruits and vegetables

Positive Thinking

The power of positive thinking cannot be undermined and so is the case with COVID-19. It has been shown that recovery rates improved significantly with power of the positive thoughts. Thinking in a constructive positive way had a significant effect on infected people getting better. Thus, if one thinks positively consistently

besides taking the proper precautions and ingesting a nutritious diet, each one of us is capable of fighting off

COVID-19. Stay Safe, Stay Home and Stay Healthy!

Conflict of Interest: None

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