

## **A Nutritionist view of Covid 19 and how to combat it.**

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### **A brief history of Covid-19**

What is actually Corona Virus?

It has been present in human civilization since past 60 to 70 yrs. It used to appear as a virus in common cough and cold. It was in the year in 2002 when it first appeared as lethal strain that can harm humans significantly.

It made its appearance in China in SARS disease i.e. Severe Acute Respiratory Syndrome. Then again after 10yrs it appeared in Saudi Arabia and its neighbouring countries as MARS.

This corona virus is merely an RNA strand, which is basically a protein molecule surrounded by a lipid(fat) layer outside its main cell body. Speciality of this virus is that every time it reappears in human civilization it gets mutated in a new form, and that is why human cells (immunity system) is unaware of this mutated form. When the virus enters the human cells the RNA of the virus breaks through the human cells and commands the DNA of the human cells to replicate the virus cells. Thus, the virus keeps on replicating and multiplying inside its host body.

So now again in Nov 2019, this corona virus, in its new mutated form, has reappeared and its outbreak occurred in Wuhan city of China. It is believed that its spread started from fruit and fish and meat markets in Wuhan city. This virus is very interesting as it is not transmitted through air or water or any food, it can enter the human body in fluids from an infected person, like sneeze droplets, through openings like ears, nose and throat(mouth). As soon as it enters through either of these openings, it starts replicating in its own characteristic way as said above. Its incubation period is from 7-14 days. So initially the WBC, soldiers of the immune system, will try to fight back and combat with the virus. But in case WBC /immune system is not so strong, the virus may overcome it and start replicating and multiplying itself rapidly. As it multiplies, it grows in number and steadily starts to move downwards towards the respiratory tract and finally reaches the

lungs. In the lungs they hook themselves into the host cells, the alveoli (the structural and functional units of lungs) and starts replicating on them and leading to secreting a mucus sort of fluid. Gradually the fluid fills up the lungs and the victim will start having a very bad dry cough and eventually respiratory problem like severe shortness of breath.

### **Prevention and Care during infection**

As such there are no medicines for most viral diseases like we have antibiotics for combating bacterial infections.

Only way to combat viral disease is by 2 methods:

- 1) build strong immunity power to fight against the virus.
- 2) preventive measures which will not allow the virus to enter our body.

As a nutritionist, my focus and recommendation are to boost up our immune system by consuming a nutritious diet. For immunity, diet should include food items from all the food groups, i.e. cereals, pulses, fats and oils, fruits and vegetables, sugars, flesh foods, eggs and poultry, milk and milk products.

We need good portion of antioxidants and functional foods in our diet. Lot of fluid intake must be encouraged.

It has 2 benefits:

- 1) it will flush out all the toxins from our body
- 2) even if any virus enters our body it will be carried to the stomach along with the fluid taken at short intervals. The acid secreted in the stomach will destroy the virus. As a preventive measure hand washing at frequent interval is highly recommended with any soap for at least for 20 seconds in deep rubbing motion.

The basic principle behind this hand wash with soap is that the chemicals present in the soap will destroy the lipid or fat layer which is surrounding the protein molecule in the virus.

The only way to kill this virus is by breaking the lipid layer which is surrounding the virus molecule. Another method which can be used as a preventative measure is using 70% iso propyl alcohol which is the main ingredient of any hand sanitizer (alcohol based). This virus disintegrates in presence of alcohol. This is recommended once you are outside home (not allowed presently due to Lockdown) and soap and water is not conveniently available. So carrying Hand Sanitizer is essential.

I would request all to abide by the guidance and instruction of the Govt and local authorities and follow strict home quarantine if it is required. this is for your and the society safety. We'll tide over the crisis with little discipline in our life and diet and precautions as mentioned.

**Building Immunity from within** - Our immune system is essential for our survival without an immune system, our bodies would be open to attack from bacteria, viruses, parasites & more. It is our immune system that keeps us healthy as we drift through a sea of pathogens.

It produces antibodies to fight against antigen (foreign substances). It has potential recognising the difference between body and alien cells (antigen/ infection causing virus). Hence defending the defence system of our body is of great importance. Let us improve our immunity to combat this deadly virus by implementing following healthy living strategies in our lives.

**Try to include the mentioned immunity boosting foods in your daily diet which helps in improving more your immunity.**

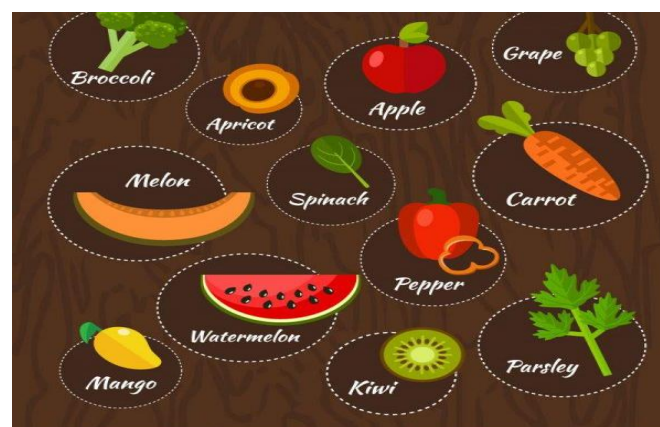
- Increase intake of vitamin C by adding citrus foods in our diet. As it is important for your skin, bones & connective tissue. It promotes healing & helps to absorb iron.



- Similar to vitamin C, vitamin E is also act as strong antioxidant, to ensure this add nuts to our diet.
- As zinc is an essential mineral involved in the production of immune cells. Therefore add baked beans, chickpeas in our diet.



- Add vitamin A, in our meals as it helps in further regulating the immune system. Food that contain vitamin A are dark green, yellow, orange pigments in fruits & vegetables.



Obtain adequate vitamin D as it helps the immune system to stay balanced during cold & flu seasons. Vitamin D is necessary for the proper functioning of your immune system — which is your body's first line of defense against infection and disease. This vitamin plays a critical role in promoting immune response. It has both anti-inflammatory and immunoregulatory properties, and is crucial for the activation of immune system defenses



- Keep stress at bay as it causes your body to produce higher level of stress related hormones (cortisol) while badly impacting the body further. When we're **stressed**, the **immune** system's ability to fight off antigens is reduced. That is why we are more susceptible to infections. The **stress** hormone can suppress the effectiveness of the **infection fighting ability**
- Exercise daily at least 30 minutes as it increases the brain production of endorphins. Just like a healthy diet, **exercise can** contribute to general good health and therefore to a healthy **immune** system. It may contribute even more directly by promoting good circulation, which allows the cells and substances of the **immune** system to move through the body freely and **do** their job efficiently. **Exercise** causes change in antibodies and white blood cells (WBC). WBCs are the body's **immune** system cells that fight disease.



- Endorphins are feeling good neurotransmitter, responsible for sense of overall well-being.



- Take alcohol in moderation as excessive consumption can lead to impairing of immune system. Alcohol compromises the body's immune system and increases the risk of adverse health outcomes. Therefore, people should minimize their alcohol consumption at any time to boost immunity.



- Take proper sleep. In the absence of adequate sleep, immune system would not have the strength to fight off the illness. Studies show that people who don't get quality **sleep** or enough **sleep** are more likely to get sick after being exposed to a virus and infections. Lack of **sleep** also affect how fast you recover if you **do** get sick.





- Quit smoking as it increases the risk for several auto immune disorders. Because **smoke** damages your sensitive lung tissues, you're at higher risk for respiratory infections like bronchitis and pneumonia which gets worsened with the corona virus.



#### BOOSTING IMMUNITY - ADD COLOURS TO YOUR DIET

One quick and easy way to fulfill your body's health needs without falling into the trap of misinformation and diet fads is to follow the concept of 'Rainbow food', alongside the balanced diet intake. As suggested by its name, rainbow foods essentially involve intake of foods of all the different colour families. Not only do the colours make the palette look fun but each of the colours play a special role in providing a specific phytochemical to our body. Foods have phytochemicals present in them, which makes them get the colour that they have. These photochemicals are nothing but antioxidants as pigments that provide fights against the free radicals or toxins in your body and help build immunity. The colour-coding of food is nature's way of guiding people into understanding what different colours bring to your body.

### **Red:**

The red colour in apples, apricots, watermelons, strawberries and pomegranate is given to it by lycopene, a phytochemical with tremendous antioxidant properties. Lycopene is known for its properties to fight heart diseases, certain types of cancers and even sun burns. The powerful antioxidant present in beetroot has anti-inflammatory and vascular-protective effects and its constituents have been demonstrated by several in vitro and in vivo human and animal studies. Even red wine has antioxidants present through catechins that has been putatively associated with lowering the risk of developing coronary heart diseases, if consumed in moderation. Fruits like apple are a must to include in your diet and can be easily food in any part of the world. It is said to be a rich source of dietary fibre which helps to maintain good bowel movement and healthy gut.

### **Green:**

We all know how important are our greens. But what makes them so important? The fact that they have some of the most essential nutrients such as calcium, potassium, iron, magnesium, vitamins B, C, E and K, along with minerals all packed into one. Chlorophyll, a pigment found in the greens of the plants **also helps neutralize the free radicals** and clears out the toxins.

Greens are also a natural deodorizer.

### **Yellow:**

Yellows are boosters: Be it your mood or your skin, eyes, bone and hair health. This is done through the presence of Vitamin C and collagen, a protein made of amino acids, that have anti-ageing properties. Yellows are also replete with bioflavonoids and carotenoids that help fight cancer. Bite into a banana, mango, pineapple, peach or a musk to have strength, glowing skin and healthy hair, all thanks to the yellow.

### **Blue-Purple:**

Though a tad bit difficult to find, blue-coloured foods such as blueberries, grapes, eggplants and purple cabbage are rich in health boosting phytochemicals called anthocyanins and resveratrol, which are loaded with antioxidants. Resveratrol has anti-ageing and disease-fighting properties and anthocyanins have anti-inflammatory and anti- carcinogenic properties that primarily help in fighting cholesterol, heart related diseases and Alzheimer's. These foods are also reputed for boosting immunity and potency of other antioxidants that are naturally present in your body.



### **Orange:**

Have a lot of orange-coloured foods if you want to improve eyesight and your overall immunity. Orange foods get their vibrant hue from beta-carotene, a form of vitamin A that acts as an antioxidant. We all are aware that nothing improves your eyesight and regulates your immune system better than Vitamin A. Opt for oranges, kinnows, carrots and pumpkin to get your dose of potassium, vitamin C, vitamin B6, fibre, lycopene and flavonoids.

### **White:**

The foods belonging to this category might lack colour, but not nutrients. Be it providing calcium, proteins and healthy bacteria called probiotics in Greek Yogurt or Vitamin C, vitamin K, folate, and fiber in cauliflower, white foods like mushrooms, turnips, tofu, chickpeas and potatoes are packed with nutrients. They contain health promoting chemicals such as allicin and allinin, which help improve blood pressure, and lower total and LDL cholesterol levels.

**SUMMARY** - it is important to remember that the immune system is complex. Eating a healthful, balanced diet is just one way to support immune health. It is also essential to be mindful of the other lifestyle factors that may affect immune system health.

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