

**SHORT COMMUNICATION**

# Breath is the Life of Beings

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**ABSTRACT** The dreadful second wave of COVID-19 is a bugle call for all of us. The mushroom spread of virus has a fatal effect on the lives of many people due to shortage of oxygen supplies and lack of essential drugs. It becomes imperative to keep your respiratory health and organs under check in order to nurture oxygen naturally instead of being dependent on oxygen cylinder. Besides various other advices of boosting immunity like natural kadhas regularly, consuming green leafy vegetables, and staying hydrated all the time, etc., it is very essential for adapting pleasant respiratory health and organs.

**Keywords:** virus, respiratory, health, oxygen, diet, immunity

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## INTRODUCTION

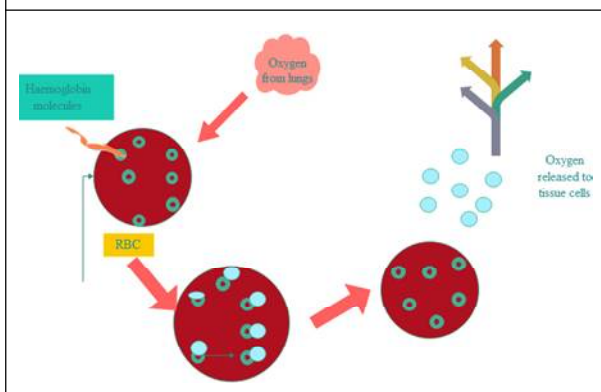
Red blood cells in our body contain Haemoglobin is an iron-rich protein a potential carrier of oxygen to all the parts of the body. RBCs carry oxygen (Figure 1) from the lungs to all other cells and tissues of the body and helps in their proper functioning. It also carries carbon dioxide away from the cells and to the lungs for expulsion (Viktoria Kuhn *et al.*, 2017).

It is a very valuable and essential protein for leading a healthy life and a drop in the level of this protein can adversely affect human health. A good, balanced and nutritious diet plays a very potential role to maintain a good parameter of haemoglobin in body. There should be intake of such

nutrients in the body that increases the level of oxygen in our blood (Salgado M T *et al.*, 2015). The diet should contain foods that are rich in iron, folic acid, and vitamins C, B<sub>12</sub>, copper, vitamin A, vitamin B<sub>2</sub> (riboflavin), vitamin B<sub>3</sub> (niacin), vitamin B<sub>5</sub>, vitamin B<sub>6</sub>, Crab/Turkey/Oyster/Chocolate, Sesame Seeds, Potato, Cashew, or mushrooms are copper-rich food items which is essential to consume.

Food	% of Copper
Oyster	245%
Crab/Turkey	30%
Chocolate	45%

**Figure 1: Role of RBC in Transport of Oxygen**



## IRON-RICH FOOD ITEMS

Beans, leafy vegetables, pulses, and peas/Chicken/oyster/duck/red meat/fish/cashew nuts or a medium baked potato are rich in iron (Patrick J *et al.*, 2010). About 2.9 mg of iron in half cup of lentil is obtained which is a appreciable amount. Seeds of sunflower a, nuts, beef, lamb, beans, whole grains, dark leafy greens (like spinach), and dark chocolate are also good source of iron. A fair quantity of 7-20 mg of iron is required daily to prevent anemia.

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Eggs, Sweet potato, carrot, gourd, mango, and spinach contain Vitamin A in the form of beta carotene. 180% of Vitamin A is fulfilled by half cup of carrot. Besides this Vanilla ice cream is a good source of vitamin A. Milk, Yogurt or buttermilk, apples, beans, sunflower seeds, tomatoes, oats, yogurt, almonds, cheese, bread are good source of Vitamin B<sub>12</sub>.

Roasted potatoes, roasted sunflower and gourd seeds, roasted peanuts also yield 8% to 26% niacin fulfil the source of vitamin B<sub>3</sub>.

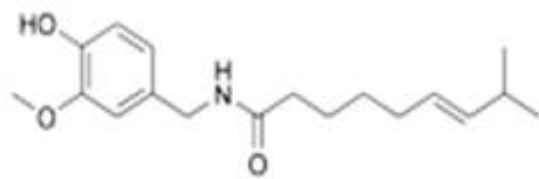
Mushrooms, organ meat (liver), chicken, avocados, sunflower seeds, bananas, spinach potatoes, peanuts, avocados, broccoli, brown rice, oats, cheese, Tuna Fish, eggs, has plenty of Vitamin B<sub>5</sub>, B<sub>6</sub>, B<sub>9</sub>. The black trumpet mushroom and Golden Shantrell mushroom contain Vitamin B<sub>12</sub>.

Resilient Immunity and healthy attitude can be maintained by proper Oxygenation. Which energises our cells, enhance brain function, and lower stress, overcome fatigue. The cells are deprived of essential nutrients needed for energy rebuild if there is low oxygen level. This can have a great impact on the mechanism of flow of fluids in the body due to which the purity of blood can be affected. The blood can develop toxins which can be the main cause of disease. The immune system can become fragile which can lead to viral infections, mutations in DNA, development of pathogenic bacteria, inflammation, heart disease, toxic build up in blood, and premature aging.

The diet intake taken can also boost the flow of blood by adding the following ingredients in our food such as:

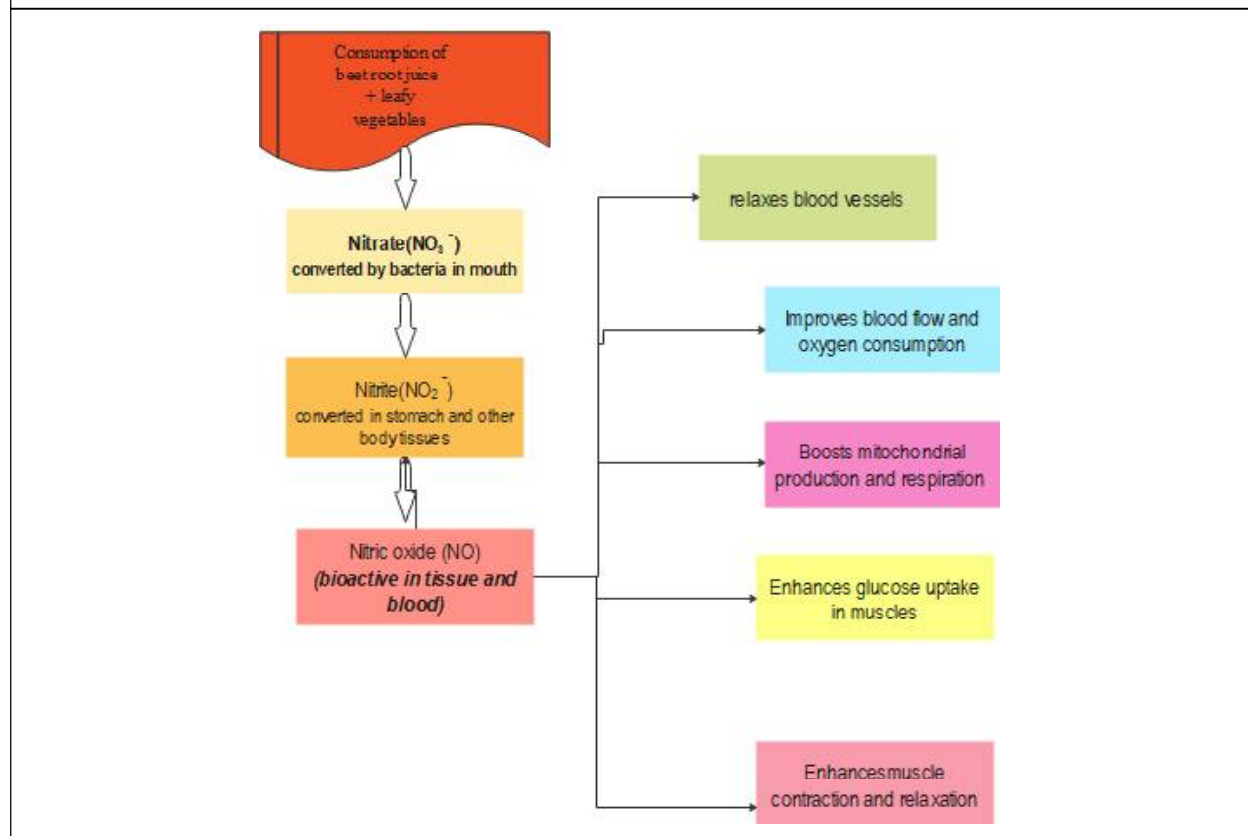
Cayenne red pepper is an orangecoloured red spice that can elevate blood flow. A compound called capsaicin (Figure 2) chemically known as (8-methyl-*N*-vanillyl-6-nonenamide) C<sub>18</sub>H<sub>27</sub>NO<sub>3</sub> in the red pepper helps to relax muscles lined with blood vessels. This, in turn, allows for blood to flow effortlessly thereby decreasing blood pressure.

**Figure 2: Structure of Capsaicin**



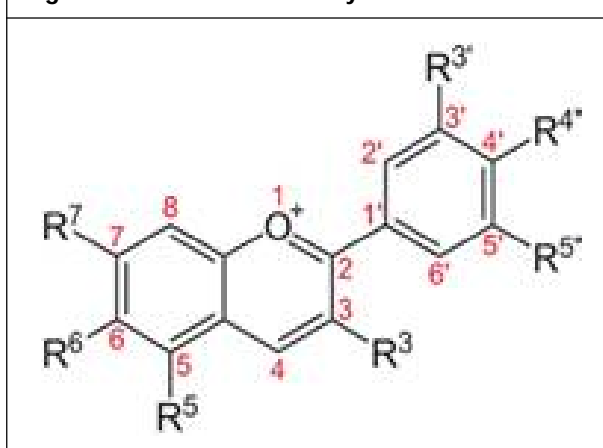
Phytochemicals like Betalins (betacyanins and betaxanthins) in beetroot also boost blood circulation. It also consists of flavonoids, polyphenols, Saponins (Baïão D *et al.*, 2017) and inorganic Nitrate (NO<sub>3</sub>). Nitrate converts to nitric oxide which helps dilation of blood vessels and increases blood flow (Figure 3) (Tang Y *et al.*, 2011; and Gilchrist M *et al.*, 2011). Beet roots are rich source of diverse minerals such as potassium, sodium, phosphorous, calcium, magnesium, copper, iron, zinc and manganese (Singh B and Hathan B S, 2014).

**Figure 3: Role of Nitrate in Enhancing Blood Flow**



Flavonoids like anthocyanins present in berries also increase blood flow. Anthocyanin (Figure 4) is also called flavylum (2-phenylchromenylium) ion as it has a positive charge at the oxygen atom of the C-ring in its basic structure. It has very good antioxidant property keeping blood vessels flexible and also stimulates blood circulation by release of nitric oxide thereby lowering blood pressure.

**Figure 4: Structure of Anthocyanin**



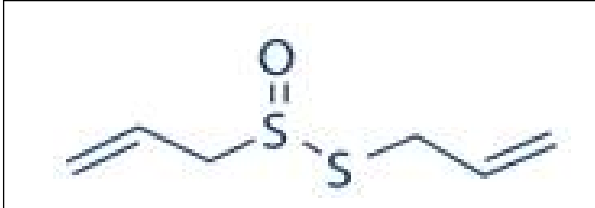
Purple grapes also contain phytonutrients like anthocyanins, catechins, polyphenols, and flavonols, along with resveratrol. They are also rich in antioxidants that curb blood flow. Ingredients in grapes. Show antioxidant, cardioprotective, anticancer, anti-inflammation, antiaging and antimicrobial properties (Tsanga C *et al.*, 2005; Falchi M *et al.*, 2006; God J M *et al.*, 2007; Shanmuganayagam D *et al.*, 2007; Olas B *et al.*, 2008; and Roberts R L *et al.*, 2009). A good source of fibre is Pomegranate constituting of vitamins A, C and E, iron, and other antioxidants such as tannins. The nitrate and antioxidant content is maximum in the seeds of pomegranate thereby boosting blood circulation to the brain, heart, muscles, organs, and tissues.

The green leafy vegetable spinach has superb antioxidant properties due to the presence of Kaempferol (3, 4, 5, 7-tetrahydroxyflavone) a natural flavonol (Seddon J M *et al.*, 1994; and Rabinkov A *et al.*, 1998). It contains appreciable amounts of quercetin which clears infection and inflammation. Besides this spinach promotes eye health due to the presence of Zeaxanthin, lutein which helps in the thickness of macular pigment.

Alliin (Figure 5) a thioester of sulphenic acid known as allyl thiosulphinate, an organosulphur compound is present in garlic which has high antioxidant property. It reacts with thiol containing proteins (Lin Y G *et al.*, 2007; and Borlinghaus J *et al.*, 2014) in the body thereby improving blood flow.

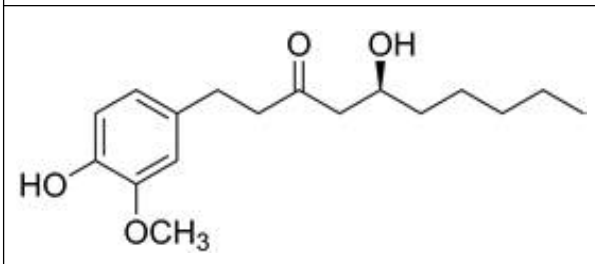
This maintains blood pressure and enables improved functioning of the heart. Therefore it is advised to have 2 garlics daily in the morning. Turmeric a sportsman yellow

**Figure 5: Structure of Alliin**



spice in Indian cuisine composing of curcumin  $C_{21}H_{20}O_6$  also enhances the level of nitric oxide and energises blood circulation. Curcumin is well known for its antioxidant and anti-inflammatory properties (Marchiani A *et al.*, 2014; and Biswas S K, 2016). A large number of reactive species are liberated at the site of inflammation which causes oxidative stress (Nafiseh Shokri Mashhadi *et al.*, 2013) which is very efficiently controlled by curcumin. Antioxidants in citrus fruits also decrease inflammation, boost circulation, and help prevent blood clots. Ginger (Caroline Gaucher *et al.*, 2018) has characteristic essence of zingerone, shogaols, gingerols with [6]-gingerol (1-[4'-hydroxy-3'-methoxyphenyl]-5-hydroxy-3-decanone) (Figure 6) giving pungent odour. It also serves as a vasodilator.

**Figure 6: Structure of Gingerols**



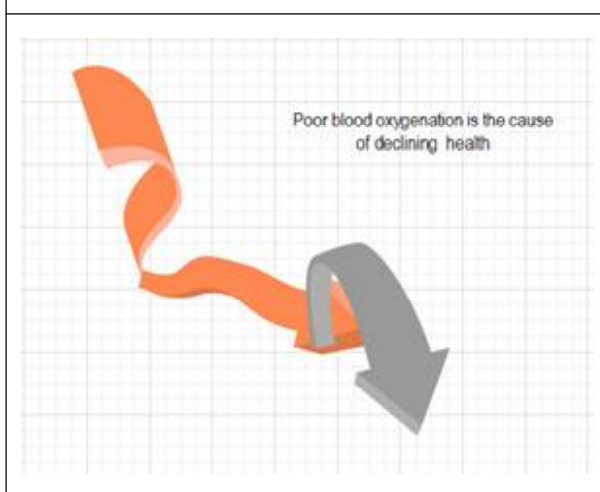
Master oxidant "Glutathione" (Quangdon Tran *et al.*, 2020) is a tripeptide which is found in all cells of the body. One of the best ways to increase glutathione is intake of coffee which increases glutathione production by 600%. It is one of the most powerful antioxidants.

Apart from healthy balanced eating habits, well hydrated body is very important. About 60% of the weight of the human body is water. Water helps in proper functioning of the cells, helps them to grow thereby providing the joints and regulating body temperature. Filtered water drinking helps in proper restructuring or ionized water is micro-clustered with smaller groupings of water molecules. This provides high levels of hydration and oxygenation at the cellular level.

Now the question arises that what causes low levels of oxygen in the body and its impact on the human body.

One can easily answer that improper diet, poor level of fitness is one of the major causes of low level of oxygen. The insufficient supply of oxygen to the cells is the main cause of production of toxins within or around the cell which hampers

**Figure 7: Drop in Oxygen Level**



and blocks the cellular oxygen mechanism thereby making the body more prone to diseases (Figure 7).

Dizziness nausea are the prime symptoms of low level of oxygen in body. The pH level of the body should be administered and a alkaline pH should be maintained because there is a mutual direct functioning between oxygen and pH level. The lowering of pH levels decrease the binding of oxygen with hemoglobin molecules. It implies that the pH of body should be more than 7, i.e. It should be alkaline for more release of oxygen in the body for effective functioning. Designing of the pH of the blood, lymph and cerebral spinal fluid in the human body is at 7, 4 which is slightly alkaline. It has been investigated that in human body alkaline tissues hold 20 times more oxygen than acidic tissues. The body could be kept alkaline by consuming fresh vegetables and fruits. There is a strict need of avoiding acidifying substances like sugar, processed foods, alcohol, sodas, diary, coffee, sweets, and microwaved foods. A very remarkable work was done by Dr Warburg in the field of medical science by proving that cancer [23] is caused by a lack of oxygen in cells. He also stated:

*"The cause of cancer is no longer a mystery, we know it occurs whenever any cell is denied 60% of its oxygen requirements."* He was also felicitated with nobel prize in 1931 for his innovation.

Yogic breathing is the fundamental unit of exercise. The deep breathing process regularly causes full exhalation and inhalation with the diaphragm which keeps the mind and body healthy. This should be practised not only by adults but by teenagers and children also because in them there is a high level of anxiety and make them more focussed in their studies by increasing their mindfulness. Qigong Shaking is really holistic and should be practised. In this whole body is free when you shake and it really relieves your stress Alpha-Lipoic Acid (ALA) and CoQ10 (Ubiquinone) is equally important by the body. It is advisable to increase happy mitochondrial

health because any infection or damage in mitochondria leads to genetic mutation which is the major cause of disease. It means mitochondria is the core and its disinfection is the root cause of diseases. Even fasting also promotes health. Ha Ha Ha is very essential for blissful health. Laughing exercises are very important as they devote enormous amount of oxygen intake in the body. It can be presumed as a hyperventilation session. It also helps in the circulation of lymph fluids in the body which improves the immune system. Try to sleep in a proper ventilated room. Good sleep is very important.

## CONCLUSION

A very proportionate balanced diet with joyful gesture improves immune system and serves as a powerful antioxidant thereby curbing proper circulation of oxygen to the entire system thereby building healthy creatures.

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