

## Healthy lifestyle and dietary habits in the battle against COVID-19-A critical review

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### Abstract

Corona virus disease (COVID-19) is a pandemic that has spread to a number of human lives worldwide. To preserve physical and mental health, keeping a balanced lifestyle is very necessary. The core aspects of good living are: diet, physical exercise, sleep and rest, grooming and stress control. Stress management. It seeks to increase the general public's understanding about healthier behaviors that can be integrated into daily life to keep one's physical and mental fitness. T-lymphocyte, micronutrients vitamins - A, B, C, D, E, and iron, selenium, and zinc minerals have been found to play a significant role in improving immunity. The results concluded that introducing good living habits into everyday life will help you emerge safely.

**Keywords:** lifestyle, dietary habits, exercise, micronutrients, COVID-19

### Introduction

Corona (COVID-19) disease is a pandemic that is spreading and affecting many lives worldwide. India's COVID-19 response is one of the Worlds strictest on the basis of data from more than 60 countries <sup>[1]</sup>. There are several explanations why anxiety and panic are widespread among the general population. One of the explanations for this condition is how to treat and react? In everybody's life, wellbeing is now a concern. The World Health Organisation (WHO) has set out recommendations for the prevention of spread of diseases. Good habits are a valuable resource in minimizing health risk, health consequences, healing, life burden and quality of life <sup>[2]</sup>. To retain physical and mental health, maintaining a balanced lifestyle is very necessary. In this review study, information about evidenced healthier lifestyles, which can be embedded in day to day life, is disseminated in general public, in order to keep one's physical and mental health. Their effect on both access to and consumption of food is severe. But access to foodstuffs depends on factors that can stretch beyond the person and are more specifically linked to Society, national and global behaviour and policies. However, it remains possible for the person to make such decisions relating to the use of food. Containment in your household has a strong influence on your own way of living, including your diet, dietary habits and your physical activity. Containment raises sedentary habits, primarily in sedentary or supporting roles, involving behaviours with very low energy intake. The individual is therefore responsible for choosing a healthier way of life, eating high in the fruit and veggies, exercising freely, maintaining a decent weight and having an adequate amount of sleep during the COVID-19 pandemic. As well as taking care of the food intake, people individually have a duty to prevent the dissemination of nutrition and dietary misconceptions as well as the COVID-19. After the

epidemic, advertisements from individual food/weeds pledging relief or avoidance of the virus have invaded networks of social media. The COVID-19 pandemic has put governments on a paradigm shift which has made networking with the private sector, foreign agencies and local communities imperative. Only by coordinating these various organizations would it be possible to protect critical nutritional food supplies. In this pandemic, policymakers are therefore asked to establish and maintain transparent and bidirectional dialogue with the public, in particular because accountability is essential for building trust, support and enforcement. Public health campaigns, nutrition education, emergency newsletters, radio and television newspapers and interviews as well as specialized telephone hotlines can provide specific approaches to advise the public of acceptable food consumption and intake. In order to sustain individuals' physical and mental health, the principal purpose of this paper is to encourage safe eating habits.

### Methods

Articles scanned and retrieved using me SH-terminological words such as Safe Habits, COVID-19, Pandemics, Micronutrients, Sanitation, Mental wellbeing, Sleep from PubMed, Search Engine Google Scholar from 2010 to 2020; additionally, open access publications and books have been checked for more information.

### Nutrition and Health

Food is one of the most significant factors that helps to play a key role before and after infection. It is understood that COVID-19 is an infection caused by a virus that attacks the immune system. Researchers in China and New York Blood Center have researched the function of T-cell viruses. T-lymphocyte cells help shield the body from infection <sup>[3]</sup>. It's very important to eat protein that improves immunity.

Micronutrients play a major part in combating infection. The micronutrients mentioned above are Iron, Selenium and Zinc vitamins A, B, C, D and E [4]. Furthermore, there is no evidence to explain the basic function of foodstuffs to mitigate COVID-19. However, several articles indicate a few nutrients that lead to improved immunity.

#### Dietary sources are shown [5]

Table 1

| Nutrient   | Sources  |
|------------|--|
| Vitamin A  | Green vegetables, Milk, Ghee, Curd.  |
| Vitamin B2 | Vegetables, Eggs, liver.   |
| Vitamin B3 | Dried yeast, Rice Polishing, Peanut, whole cereals, Meat, fish.  |
| Vitamin D  | Dietary sources include fortified foods and supplements  |
| Vitamin C  | Fresh citrus fruits like Amla, Guava, Orange, Lemon, Mausami, Pineapple. Vegetables sources include broccoli, capsicum, cabbage and turnips also contains Vitamin C. |
| Vitamin E  | Vegetable oils (safflower oil, mustard oil, sesame oil), cereal grains, wheat gum, sunflower seeds, Butter and Eggs.   |
| Selenium   | Grains, eggs and garlic.   |
| Zinc       | Grains, Legumes, Nuts, Beans, Dairy products, Egg.   |
| Iron       | Ragi, Leafy vegetables, Jaggery, Dried fruits, Eggs.   |

#### Role of Vitamins

Vitamin A helps produce antibodies and neutralises bacteria that cause infection. Carotenoids found in plants often referred to as provitamin A are also present in this process. Vitamin A helps to preserve the integrity of epithelial tissue and membrane. Vitamin B2 assists cell metabolism. One study in analysis has found that vitamin B2 or UV light reduced MERS-CoV in human plasma (Middle East Coronavirus Respiratory Syndrome) [6]. The vitamin B3 activates the killing of *Staphylococcus aureus* with its myeloid-specific transcription factor. In humans, Vitamin B3 was shown preventive as well as therapeutic. Neutrophil infiltration in the lungs with a strong anti-inflammatory effect is substantially decreased by Vitamin B3 Therapy however [7]. Vitamin D is a fat-soluble vitamin, and vitamin D is extracted from UV light in the human body. Regular exposure to vitamin D in the body to at least 5 minutes would be adequate. Bergman *et al.* included 11 randomised 5660 randomised placebo-controlled studies (average age was 16 years, ranging from 6 months to 75 years). The findings indicate that the risk of respiratory tract infections was greatly diminished by vitamin D supplementation [8]. According to an analysis carried out by Charan *et al.*, episodes of respiratory tract illness have been decreased relative to the control community among people who receive vitamin D supplements [9]. Vitamin C is a crucial element in controlling the immune system according to the study. They play important roles in the body, such as phagocytosis, transformation of the T cell and the development of interferon. A review article suggested that intakes of supplements with vitamin C during the cold could reduce illness period by 8% in adults, and by 14% in children, i.e. by about one day, the duration of the cold [10]. Vitamin E is an antioxidant fat-soluble vitamin. It defends body cells from free radicals and activates the immune system to destroy invasive bacteria and viruses [5]. Research has shown that the intake of vitamin E can reduce the risk of infections in bacteria and in viruses in older adults.

Selenium is a trace ingredient with its antioxidant property that plays a key role in protecting against viral infections [5]. Chinese researchers observed that selenium in patients with COVID-19 was strongly correlated with cure rates [12]. In human body cells, zinc is a trace factor. It helps to function appropriately for the immune system. The paper summarised 18 randomised clinical trials performed by 1781 people. Cochrane reviewed findings. The study showed that zinc prevents the replication of the virus that induces cold in the form of lozenges or syrups in particular. This decreases the normal cold period [13]. Iron is a key ingredient in combating bacteria in the immune system. The early levels of COVID 19 are associated to low levels of red blood cells and Haemoglobin. In late stages, inflammations and "cytokine storms" may trigger nerve damage, ferritin rise, or low iron levels. A research of 22 women found that iron deficiency in women with chronic cough was more frequent. Iron sulphate supplementation has increased symptoms [14]. The Health Ministry and Family Welfare Department (MoHFW) has made suggestions to use spices such as Haldi, Dhaniya (Coriander), Jeera (Cumin) and Lahsun (Garlic). These spices contribute to improved immunity [15].

#### Physical activity and Health

In order to limit the risk of human exposure to the virus, the pandemic government agreed to regulate the general activity in the context of COVID-19 Staying at home leads to more sedentary activity and less energy. However, it can be achieved at home to stay fit and stress-free. Home workouts include walking inside, escalating, lying on a chair or board, dancing, gardening and house cleaning. It is proposed that mild physical exercise can require at least 30 minutes per day and/or at least 20 minutes per alternative day of vigorous physical activity [16]. The WHO has suggested that mild physical exercise be kept fit for 150 minutes during the week. According to research paper, the "Humming (low pitch Bhrumari) caused a 15-fold increase (range, 8–21) in nasal Nitric Oxide (NO) compared with quiet exhalation" [17]. NO reduces blood pressure as a vasodilator and increases supply of blood in muscles, induces anti-inflammation in the lungs, promotes immune immunity and helps kill viruses and parasitic species. It is also free of restlessness, anger and anxiety [18]. COVID-19 clusters cause social trauma and psychiatric disorder signs. Fear is related to sleep impairment. Research has found that the increased occurrence of common cold is related to short sleep [20]. A randomised study of 51 subjects found that the experimental group had lowered the anxiety score and increased the quality of sleep of subjects after 30 mins of progressive muscle relaxation (PMR) per day for 5 consecutive days [21]. Seven or more hours of sleep is recommended for adults to remain healthy everyday by the Centre for disease prevention and control (CDC) and the United States Academy of Sleep Medicine.

#### Hygiene and Stress management

In this pandemic the preservation of effective hand-hygiene procedures should be specifically advised to deter virus infection. The WHO has suggested washing hands of the hand with soap and water (40-60 seconds) or with hand rubber (20 seconds), based on alcohol (60-70 percent). Many of these surfaces are infected by your hands and if contaminated, you can pass the virus on to your eyes, nose

or mouth and finally infect the person as this virus can survive on surfaces for hours to days. Thus, touching, nose, mouth and eyes should not be stopped. Cough and sneezing stickers, e.g. covering the mouth and nose with an angled elbow or towel, should be retained, and the tissue used should be directly after wiping by the hand. One should use face mask in order to avoid droplets spreading and keep the distance between others at least 1 metre (3 feet) to prevent infection spread. It is projected that almost 40-70 percent of the population will be compromised if people don't observe social distance. Latest experiments have also shown that the dissemination of COVID-19 is also a significant factor in infected individuals without symptoms<sup>[22]</sup>. COVID-19 epidemic and lock-down have triggered two intense public responses, i.e. panic and concern over an uncertain future. A survey of China's people showed that almost 40 (42.6%) respondents had a coronaviral epidemic in their country causing fear<sup>[23]</sup>. Another sample of those who have been exposed to quarantine after an extreme acute respiratory syndrome (SARS) epidemic showed that almost one third (29%)<sup>[24]</sup>. WHO has issued few guidance to resolve this challenging situation to remain one stress free during this period. You should limit the streaming, posting, or listening to COVID-19 news because it produces more anxiety or discomfort. People can connect frequently through telephone calls, posts or emails with families, friends and colleagues. You should spend time with your families to share concerns or something that creates tension<sup>[25]</sup>. This time can be utilized to engage yourself in creative activities or hobbies like cooking, singing, dancing, painting, writing etc.

### Conclusion

There is no known Immunity against COVID-19 and there is lack of evidence on whether those who have already been infected can relapse or contract the disease again. In this situation Healthy lifestyle practices amid the pandemic can help to boost up immunity. A strong, balanced diet can have a powerful immune system which can survive viral onslaught. A certain quantity of nutrient in cells is saturated and nutrient loss avoided. Persons eating healthy diets seem safer with improved immune systems and reduced incidences of infectious illnesses and infections.

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