Micronutriments & Covid-19

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Abstract

It is important to ensure that this Covid-19 health crisis does not lead to a nutritional crisis. Good nutrition is a key factor in the proper development and functioning of the immune system, which helps to ensure good resistance to possible disease or infection. A proper diet is an adequate source of all the nutrients essential for good health.

Keywords: Micronutriments; Covid-19; Immune system.

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1. **Introduction:**

It is necessary to ensure that this Covid-19 health crisis situation does not cause a nutritional crisis. Protection from all possible manifestations of poor nutrition is a prerequisite for success in our fight against Covid-19. Correct nutrition is a determining factor for the proper development and functioning of the immune system, which helps to ensure good resistance to a possible disease or infection, and to facilitate the healing process. Therefore, measures to ensure and promote good nutritional quality should be taken into account in the fight against Covid-19, as they help to strengthen the immune system at the individual and collective level. It is also essential to regularly follow balanced diets of sufficient quality to prevent the occurrence of certain non-communicable diseases, which are a source of higher morbidity and mortality for people infected with Covid-19 [1,2].

2. **Good nutrition for proper immune system function:**

The quality of immune system function is strongly influenced by several elements such as heredity, lifestyle and dietary habits. In order to function properly, our immune system needs the necessary nutrients, just like any other system in the body. Virtually every nutrient in the diet is important to the proper functioning of the immune system. Any deficiency in these nutrients, and sometimes even an excessive intake, can disrupt the functioning of our immune system and promote the growth of various pathogens [2,3].

3. **Balanced energy intake:**

Diets characterized by high or low energy intake have been found to have potential adverse effects on immune system function. Consumption of low-calorie products that is not recommended or based on scientific evidence, such as diets below 1500 kcal/day for weight loss, is an increased risk factor for viral infections due to weakening of the immune system. In this context of viral epidemic, appropriate nutritional recommendations and a healthy diet must be followed. In order to ensure good prevention and proper functioning of the immune system, daily energy consumption should be in accordance with the needs of each gender and age group [1,2].

4. **Adequate protein intake:**

Proteins represent the fundamental organic matter of cells and some functional molecules, such as antibodies, enzymes, hormones. The average protein requirement for an adult is 0.8 g/kg body weight. This amount can increase to 1.2 g/Kg in the case of healthy elderly subjects. The main animal sources of protein include red and white meats, fish, eggs and dairy products. The main plant sources of protein are legumes, cereals and oilseed products. To ensure that plant proteins are of higher quality, it is recommended to combine two types of plant proteins, such as grains and legumes, grains and nuts, or mixtures of legumes and nuts. It should be noted that foods made from animal products, especially red meat, are high in arachidonic acid, which can trigger an inflammatory response, especially in obese individuals with previous inflammatory disorders. To stimulate the immune system in these situations, it is therefore preferable to take plant-based proteins, egg whites, white meats and fish [2,3].

5. **Adequate hydration:**

Consumption of adequate amount of fluids is another useful action to fight against ailments. The consumption of fluids contributes effectively to the elimination of toxic substances and waste from
the body, allowing the dilution of toxic substances to facilitate their secretion and excretion, as well as ensuring good nutrition of cells. For this purpose, it is advisable to consume water in sufficient quantity, to consume herbal teas without adding sugar, to take tea without sugar and soups. A good indicator of adequate fluid intake is the presence of dilute, light-colored urine [1-4].

6. **Diversified and balanced diet:**

The intake of food from each food group should be guaranteed, for bread and cereals, whole grains and whole grain bread are preferred. For bread and cereals, priority should be given to whole grains, including rice, barley, whole wheat and whole meal flour. For fruits and vegetables, one should consume various types of fruits and vegetables of all colors. For meat, it is recommended to consume eggs, poultry and fish, and reducing the amount of red meat, especially processed meat, such as deli meat. It is also necessary to take pulses such as peas, dried beans, lentils, and chickpeas. For milk and dairy products, low-fat dairy products are preferred.

Unsaturated fatty acids contained in avocado, fish, dried fruits, olive oil, sunflower oil, corn oil, argan oil, are preferable to saturated fatty acids of animal origin such as animal fats and butters, and to trans fatty acids such as margarine and pastries.

When cooking, it is important not to exceed the cooking limits for each type of oil. In addition, the distinction between cooking oils and seasoning oils is essential. Olive oil is an excellent cooking oil because of its high degree of cook ability [1-4].

**Table 1: Recommended nutrients to strengthen the immune system.**

<table>
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<th>Nutrients recommended to strengthen the immune system</th>
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<tbody>
<tr>
<td>Polyunsaturated fatty acids</td>
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<td>Minerals</td>
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<td>Vitamins</td>
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<td>Functional foods</td>
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7. **Foods to avoid:**

Avoid eating fast foods and processed meats, as they contain high levels of saturated fatty acids, which are detrimental to health and immune system function, and often contain a high salt content. In addition, avoid foods with too much sugar, beverages with added sugar, products such as potato chips and refined cereals, because of their low nutritional value and high levels of saturated and trans fatty acids, which interfere with the proper functioning of the immune system. Ready-to-eat meals, which are usually prepared in an unprofessional way, should be avoided, as they contain high levels of salt and saturated and trans fatty acids, which can cause a marked weakening of the immune system [2,4].
8. **Best practices:**

Good sleep is a real barrier to infection, and the immune system has been shown to be strengthened by regular sleep with a sufficient number of hours. Good sleep also helps to keep you calm, avoid depression and prevent overweight [5].

Lack of physical activity is also a consequence of confinement, as it is very difficult to be physically active when you cannot leave your home. On the other hand, regular physical activity should be maintained even at home [5].

Sunshine is the main source of vitamin D, which is essential for a better balance of body functions, as well as for the preservation of bone and dental capital. It also has a positive influence on our mood. For this reason, it is necessary to take the necessary preventive measures to take advantage of the sun’s rays [6].

In addition, it is necessary to avoid self-medication and abnormal and non-rational consumption patterns, such as the use of plants [2].

9. **Food supplements:**

A good diet, both rich and balanced, is, for many individuals, a sufficient source to provide all the essential nutrients for good health. Dietary supplements may be necessary, but their value may lie in specific circumstances, for populations likely to develop a nutritional deficit, linked for example to ageing, restrictive or unbalanced diets [7].

10. **Conclusion:**

A healthy and varied diet contributes to the proper functioning of the immune system. A balanced, rich and varied diet is preferable as it provides the essential nutrients for the proper functioning of the immune system. Measures to ensure and encourage good nutritional quality should be considered as part of Covid-19 control measures.

**Declaration of interest:**

The authors declare that they have no conflicts of interest in relation to this article.
References:


