

## Editorial

# Nutrition for Healthcare Professionals during Covid-19 Pandemic

**Pinhão S<sup>1,2\*</sup>, Sá M<sup>2</sup>, Marafona M<sup>2</sup> and Teixeira C<sup>1,3</sup>**

<sup>1</sup>Centro Hospitalar Universitário São João, EPE, Portugal

<sup>2</sup>Faculty of Nutrition and Food Sciences UP (FCNAUP), Portugal

<sup>3</sup>Escola Superior de Biotecnologia da Universidade Católica Portuguesa (ESBUCP), Portugal

\*Corresponding author: Pinhão S, Faculty of Nutrition and Food Sciences UP (FCNAUP), Centro Hospitalar Universitário São João, EPE, Portugal

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A special attention should be given to the daily diet of healthcare professionals since they are the ones at the forefront of fighting the COVID-19 pandemic and work really hard (hours and hours non-stop). It is essential that their nutritional status is optimised in order to make sure their physical performance and cognitive skills are at its best.

Those professionals are in a great state of stress, and stress requires an increase in organism's physiological needs, regarding energetic needs, oxygen requirement and blood circulation. Because of that, it is important to gather greater quantity of metabolic cofactors like minerals and vitamins. It's beneficial to look at this issue from an holistic perspective and understand the nutritional impact of the overall dietary pattern which is a determinant factor when addressing many of underlying health issues due to this phase [1,2].

First of all, it's important emphasize that there's no evidence that one single food, including those labelled "super foods", can provide an energy boost. So, it's all about balance and knowing how to make the right choices concerning nutrition during personal and professional tough times. In fact there are a few nutritional tips to be followed that will help combat the day-to-day fatigue and tiredness.

The most important one is to never underestimate the significance of a good and full breakfast. Since this is the first meal of the day, a nutritious breakfast will improve concentration and alertness. For this purpose, it should be included foods that are rich in protein like <30% fat cheese or ham and low fat content milk or yogurt; and rich in complex carbohydrates foods such as bread, unsweetened cereals, cereal crisp bread and even a fruit or its juice [2,3].

If the professionals have the chance, they should have a break every 3 hours throughout the workday to eat a snack, to gather inputs of energy. In these small meals, it could be included fruit or its juice, low-fat yoghurts, cereals, toasts, bread, oleaginous fruits and seeds as they will help to reduce the perception of fatigue [4].

It is also essential to avoid abundant meals as the digestive process of these meals would use more energy and the body's energy levels would not be restored.

Food choices are the key to provide our body with essential nutrients that interfere on the stress response, digestive process, energy production and other homeostatic systems, providing an optimum nutritional value to support bodily functions, improve emotional and physical health and promote overall well-being. As a part of a balanced and healthy diet, there are food groups considered essential to help combat tiredness in the long-term [2,5].

One of those food groups that should be included are food with complex carbohydrates like whole grain bread, cereal crisp bread, unsweetened cereals, oats, potatoes, rice and pasta. These are responsible for an increased serotonin production and its levels are maintained in a constant level because this type of carbohydrates are slowly digested having a lower glycemic index. Those kind of foods should be included in every meal or snack as this is the main aspect to take into consideration for professionals in action be able to keep blood sugar levels stable and, therefore, maintain energy levels as those foods are a sustained energy source, rather than a small burst [1,2].

Fruits and vegetables are also relevant because they are an excellent option to obtain fiber, antioxidants, vitamins (like B and C) and minerals (like zinc, magnesium and calcium) that are important for tissue repair and essential for cellular metabolic reactions in this stress phase. Fruits like bananas, apples, pears and grapes as they are easy to be eating, could be chosen and also including a vegetable soup in main meals, as it is a complete food and drinkable, can be a good choice. This soup should include dark-green leafy vegetables, like spinach, as they are a good source of magnesium, and lower levels of this micronutrient are associated with headaches, tiredness and fatigue [1,3,6].

It's also important to choose foods that will make the digestive process easier like low fat content meat and fish. As a source of protein, there are other good options like eggs and low-fat cheese which can be included in main meals or snacks (a sandwich, for example). These foods provide an adequate amount of vitamin B12, triptophan (serotonin precursor) and tyrosine and phenylalanine (dopamine precursors) which are important nutrients in times of stress [7]. The ingestion of fatty fish is also important due to its omega-3 content which presents a decreasing on the serum levels of stress hormones. It is recommendable its consumption at least twice per week [1,3].

Pulses, like beans, chickpeas, lentils, peas, beans and lupines, are a source of nutrients like proteins and carbohydrates, as well as fiber, vitamins (mainly from B complex) and minerals (iron, zinc and magnesium). They can be included in soups and in main meals as they're easy to prepare and versatile [2,7].

Oleaginous fruits and seeds like almonds, walnuts, hazelnuts, cashews, pine nuts, pumpkin seeds, flaxseeds and sesame seeds are another interesting food group to be included in a day-to-day diet.

These foods are noteworthy in a nutritional view because, in addition to being an energy source, they are a “healthy” type of fat, providing essential fatty acids which help in the reduction of the inflammatory status and protect against stress effects. Include these foods in snacks is a good option but is necessary not to abuse in its quantity because they’re usually very high in energy [1].

High fat and high salt meals like hamburgers, hot dogs and french fries should be always avoided but specially in stress professional days. Stressful situations usually lead to poor food choices because of the increased cortisol which increase our desire for nutritionally dense foods with high content in fat and salt which will as well increase even more the cortisol levels. It’s important to fight against that desire because fast-food will contribute to delay the digestive process and increase drowsiness [1,6].

Hydration is a very serious and often underestimated matter. The Individual Protection Equipment used in professionals treating patients, fighting the COVID-19, increases your body temperature and water losses due to perspiration, so drinking water frequently is the key to replace these losses to combat the state of dehydration and fight fatigue. Tea is also a good option in one hand it increases hydration and, on the other, it seems to lower the serum levels of cortisol after stressful situations [1,2,7].

Ingesting caffeine appears to be a great way to improve cognitive aspects such as attention, alertness and reaction time. But, in situations of stress, some people have the tendency do miss some meals and using stimulants like caffeine. Overdoing it can increase tension and symptoms of nervousness and anxiety because of its impact in circulating hormones like adrenaline and cortisol and neurotransmitters like dopamine, increasing them. So, caffeine intake should be limited to 1 or 2 coffees per day. Remember that 1 coffee of 60mL equals 126mg of caffeine and the recommended amount of daily caffeine is 0.5 to 4mg per kg of weight [1,2].

Finally, it’s critical to remember to exclude any type of alcoholic beverage from the professional’s day-to-day routine and avoid also sweets and sugar like chocolate.

Healthcare professionals are facing a situation of extreme stress and fatigue due to the current COVID-19 pandemic which most of the times means non-stop working hours and fewer time to do the usual things that are part of a daily routine. Finding the time to do an extra type of physical activity, to prepare meals and even to eat can be difficult. Tiredness and fatigue can also have a big effect on our appetite and our desire to eat. For those who currently don’t have time to prepare or eat a complete meal, don’t have their regular appetite or simply unwilling eat, there are other valid options to replace lost energy during and after the work period. Choosing a hyper-energetic and hyper-protein nutritional supplement as a meal replacement could be an option and, most importantly, it will avoid the energy/nutritional deficit.

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