

Nutrition and Covid-19: State of the Art

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The infection with coronavirus disease - 2019 (COVID-19) represents a double risk for diabetes patients. Diabetes has been documented to be a risk factor for the severity of the disease, although patients tend to control glucose in a situation where food consumption is lower and more complex [1]. COVID-19 is triggered by the SARS-CoV-2 coronavirus (severe acute respiratory syndrome coronavirus-2), which has rapidly spread to many countries around the world [2,3]. Older patients and people of all ages who may have significant underlying health conditions- combined with obesity -may be at high risk for acute disease from COVID-19. Although general obesity is a risk factor for many diseases, several clinical studies have shown that the accumulation of visceral fat is most closely linked to different health conditions, such as cardiovascular diseases, insulin resistance and type 2 diabetes mellitus [3-5]. Moreover, diligent cardiometabolic surveillance of patients who have endured serious COVID-19 disease may be needed [6].

Symptoms of COVID-19 include fever, cough, respiratory problems, shortness of breath, breathing difficulties, weakness and a sore throat [7]. A small group of patients with more serious symptoms will have to be treated, often with pneumonia, and the condition may include ARDS, sepsis and septic shock in some cases [7].

Not a solution for COVID-19 but healthy eating habits improve immune system activity, promote immunometabolism, and are a modifiable component in the development of chronic disease closely correlated with COVID-19 deaths [8]. Will have a positive effect on COVID-19 because it can be a way to help those at higher risk for the disease, i.e. the elderly and others with pre-existing conditions (non-communicable diseases). Evidently, once they develop coronavirus, certain individuals are more at risk for serious illness. People at higher risk are often the elderly and people with one or more pre-existing conditions (non-communicable diseases). Worldwide incidence of pre-existing conditions is high, one in three adults worldwide suffers from multiple chronic conditions [9]: older people (65+ years), diabetes (Type 1 and 2), lung pneumonia, lung disease, cardiovascular disease, chronic obstructive pulmonary disease, cerebrovascular disease, hypertension, bronchitis, emphysema, lung cancer, cystic fibrosis, asthma [10].

One of the main risk factors for a variety of chronic illnesses, such as cardiovascular disease, diabetes and obesity, is an unhealthy diet. A poor diet will result in nutrient deficiency and this is likely to lead to chronic illness [11]. However, it has shown that, worldwide, a poor or unhealthy diet causes more deaths than either smoking or hypertension [12]. Bad or poor diet is what drives bad or poor health! Eating patterns which are more closely related to higher death rates include: eating high in sodium; nutrition poor in whole grains, berries, vegetables, nuts and seed. People need less processed foods and more "absolute" vegetable-based foods.

While there are discrepancies in traditional diets worldwide, generally, unbalanced diets are a threat to health across the globe and not only affect death rates but also the quality of life. It is evident from worldwide researches that dietary shortages are a global issue and it gives an indication of how people around the world are going into this COVID-19 pandemic with a disadvantage. Aging of the population

is a global phenomenon and while it is optimistic that most people live longer, it also poses problems in terms of health, quality of life and economics [13].

Nutrition is an area that can be made clear in order to benefit the elderly and to improve healthy ageing in a population. There is also a greater chance of developing with ageing: chronic diseases, decreased functional ability, cognitive decline and disability [14]. Symptoms associated with aging leading to insufficient intake of nutrients are: decreased appetite, reduced intake of food, repeated dietary choices, which will affect: weight, nutritional status, quality of life and risk of mortality [13]. Aging adults particularly vulnerable are to a decrease in body weight and a loss of muscle mass [13]. Impaired appetite can lead to reduced food intake in older people. This can lead to difficulties in getting required intakes for macro-nutrients like protein and micro-nutrients like vitamin D. This contributes to reduced body weight and muscle mass [13].

Better consumption of protein is essential to help older people: regeneration, skin health, immunity and disease recovery [15]. The average protein comparison nutrient consumption in healthy adults of all ages is 0.8 g protein/kg body weight [16]. There are new evidence-based research that suggest that increased protein intake can be helpful to older persons, particularly those with chronic disease [17].

For older persons it is advised to use calcium and vitamin D to: avoid bone deterioration, preserve current bone density [18]. That may reduce the danger of dropping and fracturing [18]. It has been found that diets larger than the optimal dietary intake are good for Vitamins A, B, E, Calcium and Zinc [19]. Causes of dietary deficits such as functional and biochemical shifts in the body may result in decreased metabolic rate and muscle mass decline in older adults. This may contribute to sarcopenia in older people (the gradual reduction of muscle mass and lack of energy, which is correlated with the possibility of adverse outcomes). Micro-nutrients with best immune protection data are: Vitamin C, Vitamin D, Zinc. Certain nutrients which can aid include: vitamin A, vitamin E, selenium, vitamins B, Omega 3's.

Good nutrition and hydration is essential. A well-balanced diet will keep you safe, improve the immune system and raising the likelihood of serious illness and infectious disease. A diet with a range of fresh products and unprocessed foods should be practiced everyday in order to supply the body with the requisite vitamins, minerals, dietary fibres, proteins and antioxidants [20].

In conclusion, a balanced "whole" diet focused on plants helps: to avoid cardiovascular disease (people at greater risk for Covid-19) people with chronic illnesses who suffer with obesity, diabetes people with cognitive impairment such as anxiety and depression

Disclosure Statement

The authors declare that there are no conflicts of interest.

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