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*Hypothesis*

## **Functional Role of Dietary Intervention to Improve the Outcome of COVID-19: A**

### **Hypothesis of Work**

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#### **Abstract**

Background: On the 31 December 2019, the World Health Organization (WHO) was informed of a cluster of cases of pneumonia of unknown origin detected in Wuhan City, Hubei Province, China. The infection spread first in China and then in the rest of the world, and on the 11th of March, the WHO declared that COVID-19 was a pandemic. Taking into consideration the mortality rate of COVID-19, about 5–7%, and the percentage of positive patients admitted to intensive care units being 9–11%, it should be mandatory to consider and take all necessary measures to contain the COVID-19 infection. Moreover, given the recent evidence in different hospitals suggesting IL-6 and TNF- $\alpha$  inhibitor drugs as a possible therapy for COVID-19, we aimed to highlight that a dietary intervention could be useful to prevent the infection and/or to ameliorate the outcomes during therapy. Considering that the COVID-19 infection can generate a mild or highly acute respiratory syndrome with a consequent release of pro-inflammatory cytokines, including IL-6 and TNF- $\alpha$ , a dietary regimen modification in order to improve the levels of adiponectin could be very useful both to prevent the infection and to take care of patients, improving their outcomes.

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