



## ABSTRACT

### COVID-19 treatment during and after recovery: What to expect

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#### Nutrition Battling on Pandemic COVID-19: How to Survive

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COVID-19 was declared a Public Health Emergency of International Concern by the World Health Organization (WHO) on January 30<sup>th</sup> and declared a pandemic on March 11<sup>th</sup>, 2020. There are more than 200 countries or territories have confirmed cases, and over 23 million individuals have been infected, leading to more than 802,323 deaths as of August 22<sup>nd</sup>, 2020. In Indonesia, the overall number of cases totalled almost 150,000 while deaths reached 6,500 and more than 102,000 recoveries recorded thus far.

Currently, there are no clinically specific drug for COVID-19, neither novel treatments nor vaccines. Hospitals and researchers over the world are testing many different therapies on coronavirus-positive patients in an effort to find a potential COVID-19 treatment, a few medications that have been making a buzz in the science community such as remdesivir, hydroxychloroquine and chloroquine, favipiravir, oseltamifir, lopinavir/ritonavir, azithromycin, plasma convalescent, dexamethasone and stem cell.

Multiple studies have found that chloroquine, a malarial drug, has anti SARS-CoV-2 activity: it can inhibit viral replication by reducing the terminal glycosylation of ACE2 receptor and interfering with the binding of SARS-CoV-2 to ACE2 receptor, combination of remdesivir and chloroquine can effectively inhibit SARS-CoV-2 infection. Early results from large study showed that hospitalized patients who got remdesivir recovered faster than placebo. While these early findings support the uses of remdesivir alone for hospitalized patients with COVID-19 is likely not enough. In China, we know that the Chinese have decreased the current epidemic situation by using the recommended drugs such as lopinavir/ritonavir, chloroquine phosphate and other drugs. The relief of the epidemic in most provinces of China has at least confirmed the effectiveness of the treatment to a certain extent. Cao et al from China observed no benefit with lopinavir/ritonavir treatment in severe COVID-19 patients. In another study from China used of chloroquine to treat patients with COVID-19 infection showed an improvement in more throat-swab nucleic-acid results than the use of lopinavir/ritonavir. We need still strong evidence to prove this recommendation.

On August 19<sup>th</sup>, 2020, FDA has issued to provide recommendations to health care providers on the administration of investigational convalescent plasma from individuals who have recovered from COVID-19. Plasma is the liquid part of blood that carries blood cells. In China, 10 adults with severe COVID-19 symptoms were given convalescent plasma, all the patients had greatly improved within 3 days. The patients who receive this treatment must meet the criteria: laboratory confirmed COVID-19, severe or immediately life-threatening COVID-19, for example severe disease is defined as one or more of the following: shortness of breath (dyspnea), respiratory rate  $\geq$  30/min, blood oxygen saturation  $\leq$  93%, partial pressure of arterial



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oxygen to fraction of inspired oxygen ratio  $<300$ , lung infiltrates  $>50\%$  within 24 to 48 hours and also patient with life-threatening disease is defined as one or more of the following: respiratory failure, septic shock, multiple organ dysfunction or failure. In Indonesia based on [clinicaltrials.gov](https://clinicaltrials.gov), there are 2 studies of using plasma convalescent, but the results of these studies have not been reported yet.

Further clinical trial remain urgently needed to treat the COVID-19 and bring the SARS-CoV-2 under control.

**Keywords:** remdesivir, chloroquin, plasma convalescent, COVID-19, SARS-Cov2

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