

Opinion

Role of Probiotics in COVID-19 Management?

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Abstract: Probiotics as an intestinal microbe regulator, not only improve the ability of the gastrointestinal microbiota to modulate immune activity, but also strengthen the body's immune system, inhibit allergic reactions and has a significant role especially in the anti-viral immunomodulation. Therefore, in patients with COVID-19, the intestinal micro-eco-regulator, represented by probiotics, may be a therapeutic choice. However, there is still a lack of evidence-based studies to support probiotic treatment of patients with COVID-19. New cohort studies and randomized controlled clinical trials to assess the effectiveness of probiotics in the management of COVID-19 are strongly and urgently needed.

Keywords: Probiotics, COVID-19, Gut microbiota, clinical trials, cohort study, GIT.

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Research Opinion

At the end of 2019, a novel coronavirus was identified as the causative of a cluster of pneumonia cases in Wuhan (China), resulting in an epidemic throughout China, followed by a global pandemic. In February 2020, the World Health Organization (WHO) announced the disease COVID-19, which stands for coronavirus disease 2019 (WHO, 2020).

The common symptoms of COVID-19 infection include fever, dry cough, shortness of breath, and breathing difficulties less common symptoms include anosmia, sore throat, runny nose, vomiting and diarrhoea (CDC, 2022).

Early reports from Wuhan showed that 2-10% of patients with COVID-19 infection had gastrointestinal symptoms such as diarrhoea, vomiting and abdominal pain. About 10% of the patients presented with diarrhoea and nausea 1-2 days before the development of fever and respiratory symptoms (Yeo et al., 2020). Moreover, another study involving 1141 COVID-19 patients found that 183 of the 1141 patients (nearly 16%) presented with gastrointestinal symptoms only (Su et al., 2020).

COVID-19 disease are characterised by gut microbiome dysbiosis, immune dysregulation, hyper-inflammation, and cytokine storm (Angurana and Bansal, 2020).

Gut microbiota configuration was associated with COVID-19 disease severity, and altered gut microbiota persisted even after clearance of the virus, suggesting that the virus might inflict prolonged harm to human microbiome homeostasis (Effenberger et al., 2020).

Probiotics are live microorganisms that when administered in adequate amounts confer a health benefit on the host (Hill et al., 2014).

Probiotics as an intestinal microbe regulator, not only improve the ability of the gastrointestinal microbiota to modulate immune activity, but also strengthen the body's immune system, inhibit allergic reactions and has a significant role especially in the anti-viral immunomodulation (Zhang *et al.*, 2020).

Therefore, in patients with COVID-19, the intestinal micro-eco-regulator, represented by probiotics, may be a therapeutic choice. However, there is still a lack of evidence-based studies to support probiotic treatment of patients with COVID-19.

New cohort studies and randomized controlled clinical trials to assess the effectiveness of probiotics in the management of COVID-19 are strongly and urgently needed.

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