

# **Meditation-based interventions might be helpful for coping with the Coronavirus disease 2019 (COVID-19)**

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## **Abstract**

The Coronavirus Disease 2019 (COVID-19) has been characterized as the first pandemic caused by a novel coronavirus and drawn intense attention in China and globally. With the incidence and mortality rates of COVID-19 rapidly growing worldwide, people have been experiencing tremendous psychological distress during the pandemic. Elevated psychological stress could compromise the human capacity to fight against COVID-19. However, effective interventions and timely mental health care to increase resilience and improve psychological wellbeing is still lacking, which would be the focus of this article. In this article, we briefly summarize why meditation practice may have the potential to help minimize stress-related psychological symptoms associated with the coronavirus outbreak and how we can respond efficiently and effectively to this outbreak via taking advantage of meditation. We also provide a brief introduction of a meditation program that we developed and advocate to popularize meditation practice as a viable approach to improve wellbeing while combatting COVID-19 worldwide

**Keywords:** COVID-19, Psychological stress, Meditation, Bodily sensations, Emotional trauma

## **1. COVID-19 outbreaks globally**

The Coronavirus Disease 2019 (COVID-19), first reported in Wuhan, Hubei, China, has been characterized as the first pandemic caused by a coronavirus and drawn intense attention in China and globally<sup>1</sup>. Due to human-to-human transmission, the incidence and mortality of COVID-19 are rapidly growing worldwide<sup>1</sup>. Up to March 20<sup>th</sup>, 2020, at least 81,300 diagnosed cases and 3,253 deaths have been reported in China. Apart from China, 152,773 confirmed cases and 6,587 deaths with COVID-19 have been diagnosed from 175 countries and territories, and Europe has turned into the epicenter of this pandemic now, including Italy (41,035 diagnosed cases) , Spain (17,147 diagnosed cases) , Germany (10,999 diagnosed cases), France (10,877 diagnosed cases) and (<https://experience.arcgis.com/experience/685d0ace521648f8a5beee1b9125cd>) . With the rapid spread of COVID-19 globally, authorities and the public have been deeply concerned both by the alarming levels of spread and severity, and by its [tremendous](#) negative impacts on the public

health and the functioning of economy and society.

## **2. People have been experiencing huge psychological stress in the fight against COVID-19**

Public health measures, such as isolation, quarantine, travel restriction, and the lock-down of heavily affected cities such as Wuhan since January 23<sup>rd</sup>, 2020, are deemed necessary for COVID-19 containment and mitigation<sup>2</sup>. However, negative psychological effects such as fear, anxiety, boredom, depression, even suicide are likely to arise<sup>3,4</sup>. Indeed, people have been experiencing tremendous psychological stress while fighting against COVID-19. Firstly, patients confirmed with COVID-19 infection are unprepared for the emotional trauma associated with the diagnosis, treatment and prognosis, resulting in fear, anxiety, depression and insomnia<sup>4</sup>. Meanwhile, bodily sensations such as fever, coughing, vomiting and difficulty in breathing can exacerbate psychological stress. Secondly, people under investigation may experience fear and anxiety during the period of waiting. In addition, separation from families and a sense of confinement would contribute to worsening psychological distress<sup>2</sup>. Thirdly, healthcare providers are confronted with enormous pressure, such as overwork, exhaustion, isolation, high risk for infection, which could lead to mental conditions such as anxiety, depression, sleeplessness and frustration<sup>5</sup>. Fourthly, with elevated numbers of new cases and deaths, escalated media reporting, confinement, uncertainty over the course of disease and inadequate supplies (such as masks, food, water and daily supplies), anxiety at a community level is increasing<sup>2,4,6</sup>.

## **3. Elevated psychological stress has negative implications in the fight against COVID-19**

Elevated psychological stress would have a number of negative implications. Firstly, it would disrupt the therapeutic effect of the patients, the attention of healthcare providers as well as the decision-making process of policy-makers. Secondly, psychological stress may have a lasting effect on the overall psychological wellbeing<sup>7</sup>. Xiang YT et al. reported that post-traumatic stress disorders, depression and chronic fatigue still existed widely among severe acute respiratory syndrome (SARS) survivors even a decade after the outbreak of SARS in 2003<sup>7</sup>. Furthermore, accumulated evidence also showed that psychological stress could impair anti-viral immune responses and increase the release of inflammatory factors<sup>8</sup>, which are crucial for the development and progression of COVID-19<sup>1</sup>. Therefore, the effective interventions and timely psychological health care needs to be developed urgently.

## **4. The underlying mechanisms of meditation-based interventions to cope with COVID-19 treatment**

In the past 40 years or so, meditation, rooted in ancient oriental culture and gained momentum in western psychology research and practice, has been proven effective in reducing psychological distress, assisting disease treatment and recovery, and improving the quality of life in various populations<sup>9,10</sup>. Meditation is a mental practice which aims to promote psychological ability (such as cognitive function and emotional regulation)<sup>9,10</sup>. We speculate that meditation may serve as an effective intervention for those who are fighting against COVID-19 pneumonia via the following mechanisms. Firstly, meditation enables individuals to pay attention to the present moment via directing and focusing the mind on a particular/certain object such as breathing or physical sensation. This gives them a new vantage point to recognize unhealthy emotions and direct their attention more effectively toward self-regulation of the body and mind, thus helping to diminish negative emotions and strengthen internal motivations to defeat COVID-19. Secondly, meditation may help human beings to recognize and accept COVID-19, COVID-19-related emotions (such as fear, anxiety and depression) and physical symptoms (such as fever, hypoxia, cough and fatigue) as the way things are in this moment, no matter how challenging or terrifying they might be. This different perspective can help promote better emotion regulation through greater acceptance of things as they are, thus enhancing one's capability in fighting against COVID-19. Thirdly, stress hormones, such as cortisol, act as immunosuppressive agents, and therefore may hinder the anti-COVID-19 immune response. On the contrary, meditation reduces blood cortisol levels<sup>11</sup>, thus enhances anti-viral immune response, resulting in health benefits. Furthermore, meditation reduces inflammation factors<sup>8,12</sup>, such as C-reactive protein, which can be significantly elevated and serve as a potential risk factor for negative clinical outcome<sup>1,13</sup>. In addition, meditation training is widely accessible, easy to learn and inexpensive, thus meditation serves as an attractive and cost-effective adjunct intervention compared to the traditional medical therapy. These facts summarized here clearly indicate that meditation practice has the potential, if well-articulated and effectively delivered to those infected, those at risk and care-givers, to help minimize the stress-related psychological and pathological symptoms (such as fear, anxiety and depression) associated with the virus outbreak, and potentially modulate/alleviate the course of the physical disorders. This suggests an important and potentially major role for meditation-based interventions in the treatment of COVID-19.

## **5. Suggestions on the use of meditation-based interventions for coping COVID-19-related psychological stress**

How can we respond more efficiently and effectively to this outbreak via taking advantage of meditation? Some suggestions listed

here might be helpful to cope with the COVID-19-related psychological stress (Figure 1). Firstly, a multidisciplinary team should be established which includes psychologists, healthcare workers and meditation mentors, who are responsible for designing the meditation training programs for COVID-19, providing psychological counselling, and serving as coaches to help participants complete the practice with good adherence. Secondly, the meditation training program for COVID-19 should integrate body and mind techniques to gain broad positive effects in modulating or alleviating psychological stress, such as relaxation, mental imagery, breathing training and mindfulness practice. Thirdly, the meditation practice would be accompanied by music, which could drive the attention of the mind via continuous sensory input, help relaxing the body quickly and maintaining a good mindful state. In addition, the meditation training program can be disseminated by easy-to-carry electronic devices and applications (such as portable speakers and WeChat, a popular Chinese social media). For easily accessible and non-physical contact training mode, free online meditation lessons can be delivered quite efficiently to confirmed cases, people under investigation, healthcare workers and the general public.

## 6. Conclusion and Prospect

Currently, a meditation training program for COVID-19 was developed by a multidisciplinary team and popularized on WeChat with free access, and the training lessons were in the supplementary data (Modern Meditation for Fighting Against the COVID-19 Pandemic.mp3). Meanwhile, the effects and underlying mechanisms of meditation for the treatment of COVID-19-related psychological distress are under investigation by a collaborative research team in Wuhan. We expect meditation-based interventions will have beneficial impact on reducing the COVID-19 burden and prevent post-traumatic stress disorder in China. With Coronavirus spreading globally, we sincerely hope to communicate with colleagues who are working on COVID-19, offer our experiences and share our works.

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Figure 1

