

# Stress could be a Major Contributing Factor in the Pathogenesis & Prognosis of COVID-19 in the Medical Team Professionals

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**ABSTRACT:** The world with COVID-19 is in greatly challenging circumstances that can lead to stress for many reasons including the feeling of uncertainty and the worry about family members and friends. Chronic stress affects both humoral and cellular immunity. The role of government and public support for the health teams is demanded to help the health professionals overcome these stressors and therefore defeat the infection.

**KEYWORDS:** COVID-19, Stress, Medical professionals, Immune system.

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Stress is a broad term that encompasses the exposure to challenging conditions.<sup>1</sup> Chronic stressors (for days to years) is predisposing factors for dysregulating the immune system. This may lead to systemic inflammation and activation of latent viruses. Chronic stress affects both humoral and cellular immunity.<sup>2</sup>

Pandemics are one of the greatly challenging circumstances that can lead to stress for many reasons including the feeling of uncertainty, the worry about family members and friends and the shortages of foodstuffs.<sup>3</sup> Reports from many countries points to the affection of health workers. Although it may be underestimated, there is a considerable percentage of health professionals who died by COVID-19.<sup>4</sup>

Many authors have reported the systemic involvement of multiple organs and related that to the inflammatory storm that occur in patients with COVID-19.<sup>5</sup> A study reported a decrease in T-cell count in COVID-19 patients and even the surviving T-cells show exhaustion.<sup>6</sup> Previous studies also revealed neutrophilia, lymphopenia and elevated levels of the systemic inflammatory proteins in patients with COVID-19.<sup>7</sup>

Collectively, health workers including physicians and nurses are more vulnerable for stress responses, which are aggravated by their exposure to substantial physical and mental stressors. The flooding of the health centers by the increasing numbers of cases and the close contact to patients and the fear of contacting their families are all contributing factors having much more impact on the health team workers. These issues warrant studying stressors as risk factors in the pathogenesis and prognosis of COVID-19 in the health professionals taking in consideration the role of such stressors on in causing further deterioration in the immune system. This may shed light also on the role governmental and public support for the health teams, which is of great importance to help them overcome these stressors and therefore defeat the infection.

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### CONFLICT OF INTEREST

None to declare.

### FINANCIAL DISCLOSURE

None to disclose.

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### *Author's Contribution*

**SMA:** Conception and design of study, acquisition published data.

**IT:** Drafting of manuscript and critical revision.

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