

# Endogenous Deficiency of Glutathione as the Most Likely Cause of Serious Manifestations and Death in COVID-19 Patients

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## Abstract

Higher rates of serious illness and death from coronavirus SARS-CoV-2 (COVID-19) infection among older people and those who have comorbidities suggest that age- and disease-related biological processes make such individuals more sensitive to environmental stress factors including infectious agents like coronavirus SARS-CoV-2. Specifically, impaired redox homeostasis and associated oxidative stress appear to be important biological processes that may account for increased individual susceptibility to diverse environmental insults. The aim of this Viewpoint is to justify (1) the crucial roles of glutathione in determining individual responsiveness to COVID-19 infection and disease pathogenesis and (2) the feasibility of using glutathione as a means for the treatment and prevention of COVID-19 illness. **The hypothesis that glutathione deficiency is the most plausible explanation for serious manifestation and death in COVID-19 patients was proposed on the basis of an exhaustive literature analysis and observations.** The hypothesis unravels the mysteries of epidemiological data on the risk factors determining serious manifestations of COVID-19 infection and the high risk of death and opens real opportunities for effective treatment and prevention of the disease.