Exercise in COVID-19: Intensity and Timing

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Received 2021 January 27; Accepted 2021 February 16.

Keywords: COVID-19, Critical Care, Physical Therapy, Exercises, Health Promotion

Dear editor,

COVID-19 outbreak around the world raises concerns about patient management, particularly in the critical care setting (1, 2). Conventionally, bed rest had been suggested for patients following flu-like syndromes, and therefore, this concept could be applied for covid-19 infection. Accordingly, one might have hypothesized that bed rest could be beneficial for COVID-19 patients, particularly in the acute phase. Our experiences at the bedside showed some findings in this regard because we observed that the patient’s condition had deteriorated and oxygenation level decreased soon after moderate activity. In the symptomatic phase, the patients might take advantage of short periods of bed rest. It seems that exercise would have mental and physical advantages for patients in the first days of infection (3). Also, Pieces of evidence about COVID-19 home confinement suggested that low/medium intensity high volume exercise, and decreasing the calorie intake by 15 to 25 percent could prevent the harmful consequences of sedentarism (4). In terms of cellular and molecular, Moderate exercise in the early stages of infection can reduce pulmonary cellular infiltration and a shift from a T-helper 1 to a T-helper 2 index (5, 6). Reducing symptoms, inflammatory factors, virus load, and inflammatory cytokine level is associated with persistent exercise. Then, acute exercise could be beneficial, which is limited to the primary phase of infection. Consequently, it could reduce the viral load, mitigate cytokine storm, shorten the sectional acute phase, and accelerate recovery (7). However, there are no randomized controlled trials in the field of COVID-19; and then, more studies are required. Also, mild exercise could improve the autophagy mechanism (8) which ameliorates the function of the immune system in response to COVID-19 infection.

It is hypothesized that COVID-19 patients might repre-
could be considered as a second hit phenomenon. Mild exercises in bed rest period (i.e., acute phase) could prevent the probability of coagulation in pulmonary capillaries and deep vein thrombosis (11). It might lead to health promotion in COVID-19 infected patients.

Footnotes

Authors’ Contribution: Study concept and design: M.M; Acquisition of data: H.A.V; Analysis and interpretation of data: M.M, M.R.H; Critical revision of the manuscript for important intellectual content: M.M, M.R.H; Statistical analysis: H.A.V; Administrative, technical, and material support: M.M, MR.H; Study supervision: M.M, MR.H.

Conflict of Interests: There was no conflict of interest.

Funding/Support: It was not declared by authors.

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