



Exercise Recommendations During Coronavirus (COVID-19) Outbreak

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Dear editor,

Coronavirus (COVID-19) pandemic has caused serious worries for different people, both sedentary and active, about performing any physical activity (PA). In this regard, those with an active lifestyle are more concerned about continuing their routine PA programs in the future due to the highly restrictive rules and regulations set by governments. Under such conditions, the response to the question “is it safe to do exercise like before” seems to be of great importance for a large number of people. Before addressing this issue, it seems necessary to review the link between PA and infectious diseases. Based on the ample evidence obtained through the exercise immunology field over past decades, the immune system is highly responsive to exercise (1-4). According to the j-shaped curve, there is an inverse relationship between exercise intensity and upper respiratory tract infections (URTI). Based on this curve, moderate-intensity exercises (MIE) strengthen the immune system functions whereas high-intensity exercises (HIE) weaken the functions of the immune system (5). Therefore, it seems logical to recommend people doing MIE and avoid HIE to boost their immune system. Coronavirus, like influenza (flu) virus, is an infectious disease, causing URIs. However, unlike the flu, it is new, and very little is known about it. The available data concerning the relationship between exercise and the viral infection goes back to the series of studies conducted by Woods et al. (6), entitled “Exercise and the flu” on both humans and animals. Woods et al. conducted these studies to understand how acute and chronic bouts of exercise affect the flu and its vaccination. Briefly, findings achieved from Woods’ studies show that both humans and animals can benefit from MIE compared to HIE because both humans and animals subjected to either acute or chronic MIE showed an improved flu vaccination and protection from flu-related death in comparison with humans and animals subjected

to either acute or chronic HIE (6). Primarily, such evidence reflects the beneficial role of exercise in preventing and treating infectious diseases. Furthermore, an optimal amount of exercise can have a protective effect on the immune system functions which is important to counteract the risk of COVID-19.

As a result, prescribing MIE to healthy asymptomatic individuals seems to be useful, and should be recommended. Due to the high risk of being infected and the spread of COVID-19, the PA environments are of great importance. Home-based activities are much more recommended than outdoor activities (7). The most accredited physical exercise and health institute representatives; American College of Sports Medicine (ACSM), American heart association (AHA), exercise and sport sciences Australia (ESSA), and the World Health Organization (WHO) highly recommend placing more emphasis on being active and avoiding excessive sedentary behavior at home, and healthy and asymptomatic people can perform their regular exercise during COVID 19 outbreak. These major health care institutes recommend performing different exercise modalities such as aerobic, strengthening, balance, and stretching exercises (7). However, it should be noted that a sedentary lifestyle and unaccustomed and prolonged physical activity can put one at risk of being infected. Hence, it seems reasonable for people with a sedentary lifestyle to start with light physical activities and avoid unaccustomed intense and prolonged physical activities (8).

Some precautions should be taken in the case of outdoor activities, to reduce the risk of being infected. These precautions include keeping physical distancing when exercising with a partner, wearing a mask, disinfecting exercise equipment in fitness centers before and after using them, washing hands with soap for at least 20 seconds, using hand sanitizers with at least 60% alcohol, not touching

your face and neck with your hands unless disinfected (9). Therefore, due to some restrictions and following up some exercise considerations such as intensity, a healthy asymptomatic person can do any PA or start an exercise program.

Typically, the PA program should be adjusted to the severity of symptoms that an individual exhibits. If the URTI signs are limited to the neck, the person should take a 10-min jogging test to see how the symptoms have changed; if deteriorated, any type of exercise is prohibited till being fully recovered; if not changed, the person is only allowed to do moderate-intensity exercises. However, physical activity should be prohibited until full recovery when the person exhibits pulmonary issues like shortness of breath, chest pain, and other sensations, such as body aches (10).

In conclusion, there are similarities between COVID-19 and influenza virus signs which make it probably reasonable to recommend exercising during the COVID-19 outbreak. Firstly, vigorous physical activities should be avoided as much as possible during the COVID-19 outbreak. Secondly, healthy and asymptomatic people can perform moderate-intensity exercises with hygienic considerations. Thirdly, individuals with slight upper respiratory tract symptoms can do light exercises with precautions. Finally, one suspected of COVID-19 symptoms (e.g., fever, cough, severe sore throat, myalgia, shortness of breath, general fatigue) should avoid exercise until full recovery.

Footnotes

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