

Sport and Musculoskeletal Disorders during COVID-19 among Older Adults

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Authors

Fatemeh Pourhaji^{1,2*} PhD
Mohammad Hossien Delshad^{1,2} PhD

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¹ Public Health Department, School of Health, Torbat Heydariyeh University of Medical Sciences, Torbat Heydariyeh, Iran.

² Health Sciences Research Center, Torbat Heydariyeh University of Medical Sciences, Torbat Heydariyeh, Iran

* Correspondence

Address: No 15, Department of Public Health Department, School of Health, Torbat Heydariyeh University of Medical Sciences, Razi st., Ferdowsi Blvd, Torbat Heydariyeh, Iran.

P.O. Box: 33787-95196
Phone: +98 (51) 52226013
Mobile: +989363026729
Fax: +98 (51) 52228021
Email: Pourhajif1@thums.ac.ir

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ABSTRACT

A novel strain of coronavirus was discovered in Wuhan, the capital of the Hubei province of China In December 2019 ^[1]. This virus caused the severe acute respiratory disease, which named coronavirus disease (COVID-19) and has since spread worldwide ^[2].

All aspects of human life including sport and physical activity are affected by COVID-19 pandemic which leading to loss of physical and psychological health ^[1]. In many countries, Physical Inactivity (PIA) is one of the main causes of Occupational Musculoskeletal Diseases (OMSDs) ^[3]. The older adults are at risk for PIA, so that they usually suffer from illnesses and Musculoskeletal Disorders (MSDs).

Today, due to longer life expectancy, the older adults' proportion are increasing which represents the key challenges for governments especially in developing countries ^[4]. In Iran, the rate of people with the age over 60 and 65 is estimated to be around 31% and 22%, respectively in 2050 ^[5].

During COVID-19 pandemic, inactivity and aging increase the risk of chronic diseases and elderly people often suffer from multiple chronic diseases. Physical activity is a major contributor to "healthy aging"

and can prevent or reduce the occurrence of MSDs in aged populations ^[5]. In Iran, most of the predisposing factors for MSDs such as obesity and insufficient physical activity are main causes of MSDs ^[5].

In infected individuals with COVID-19 exercise may contribute to complications with underlying cardiac pathology and can increase viral replication and heart injury leading to permanent damage or even sudden cardiac death ^[1]. In this regard, exercise recommendations following COVID-19 is a concerned topic especially in individuals suffering from myocarditis. However, because of misinterpreted nonspecific symptoms of myocarditis, it is difficult to diagnose COVID-19 associated with this disease in athletes in Electro Cardiac Gram (ECG) and elevated cardiac biomarkers which being interpreted as effects of long term training adaptations and acute exercise ^[1].

However, decreasing routine training among older adults during this pandemic can cause serious disruption to the quality and quantity of training, which may lead to lower physical and psychological health. Regular exercise training has an overall anti-inflammatory and antioxidant effect especially beneficial for older adults who

are more susceptible to infection in general [1, 5].

As many countries are now gradually leaving lock down restrictions, therefore they globally have now come up with their framework for return to training. A strategic phased manner has been recommended as phase 1 with 1-2 people exercising with at least 1.5 meters distance in no indoor environment and no sharing of equipment. Phase 2 allows 10 older adults who are asymptomatic for last 14 days exercise with some sharing of regularly and thoroughly cleaned equipment with no deliberate contact and minimized time spent in common areas following a 'get in, train and get out' principle^[1, 5].

Phase 3 permits full return to contact training and return to play. It should be emphasized that even in phase 3 it is critical to follow

social distancing along with adequate hygiene^[1, 5].

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