Letter to Editor

Fitness Model of Physical Activity/ Exercise during the Homestay Period of Covid-19

Muhammad Tariq Rafiq

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The COVID-19 pandemic was first detected in China at the end of 2019[1]. Today, the COVID-19 is the biggest public health issue that is challenging the world[2]. World Health Organization has advised people to stay at home as a safety recommendation and precaution to reduce the transmission and exposure of the virus[3]. It is necessary to prevent the virus from spreading by quarantine and social distancing. People feel loneliness and social isolation by the safety recommendations of the virus. Both loneliness and social isolation produce physical and mental-health-related problems. Low levels of physical activity and sitting for a long time are risk factors for disease development.

All adults should engage themselves in moderate to vigorous exercise/ physical activity with a minimum duration of 150 minutes per week according to the United States Physical Activity Guidelines[4]. The effects of exercise/physical activity in the human body are to prevent cardiovascular disease, reduce body mass, improve the functionality of the immune system, and fight against viral infections. There is an adaptation of the immune system by improving its function depending on the type and intensity of exercise[5]. The most recommended weekly frequency is one session per day for the adult and general population[6]. 150-300 minutes is the most recommended volume of work per week for the general population[7]. According to the American College of Sports Medicine, the recommended moderate exercise intensity is 150 to 300 minutes for one week[8].

We should maintain regular physical activity at the individual level in the period of the COVID - 19 pandemic. When physical activity is performed regularly and systematically, then the risk of systemic inflammation is reduced, which is lung damage's main cause that occurred by the new coronavirus[9]. Participation in routine physical activity serves to prevent and treat chronic diseases as well as viral infections caused by COVID-19[10]. Previously active cases of COVID-19, children, the elderly, pulmonary disease, or cardiovascular disease patients should seek advice from their health care doctors, rehabilitation experts, or exercise physiologists about when it is safe for physical activity.

There is a gap in the literature for exercise models for individuals during the homestay period of COVID-19. The researcher with the help of several experts specialized in exercise/physical activity and rehabilitation sciences designed a fitness model of physical activity/exercise in the homestay period of COVID -19 (**Table I**). Active cases of COVID-19 should not follow this model. The frequency and duration of the fitness model of physical activity/ exercise can be changed according to the fitness level of individuals.

Home-based physical activity programs combined with mHealth or eHealth are essentials to deliver physical activity during the homestay period of COVID-19. Home-based physical activity interventions can reduce the sedentary behavior of individuals by the implementation of mHealth or eHealth applications. Telecommunication with mHealth or eHealth might be an effective and feasible communication channel between community and health care experts.

TABLE I: FITNESS MODEL OF PHYSICAL ACTIVITY/EXERCISE DURING HOMESTAY PERIOD OF COVID-19

Frequency	Type of exercise	Duration
4-6 times a week	**Warm-up:** Full body range of motion and dynamic stretching exercises.	4 to 10 minutes
	Exercises	
	• Arm curl with lightweight in the hand	Three sets of seven repetitions
	• Push up (or adapted)	Two sets of five repetitions
	• Knee lifts	Three sets of seven repetitions
	• Knee lifts with arm raise	Two sets of five repetitions
	• Sit to stand	two sets of five repetitions
	• Sit-ups	One to five minutes
	• Squats	One to five minutes
	• Lunges	One to five minutes
	• Step-up: gradually in-crease from low to high step	One to five minutes

• Jogging on a spot	Two to seven minutes
• Running on a spot	One to five minutes
• Jumping rope	One to three minutes
Cool down: Full body range of motion and static stretching exercises.	Four to ten minutes

In the future, case studies, experimental research, or randomized controlled trials may prove the benefits of the fitness model of exercise/physical activity in the homestay period of COVID-19. The effects of physical activity interventions can be increased by technological advancements such as physical activity trackers, smartwatches, mHealth, or eHealth applications.

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AUTHOR AFFILIATION:

Muhammad Tariq Rafiq
Punjab Employees Social Security Institution
Rehmatul Lil Alamen Postgraduate Institute of Cardiology
Physiotherapy Department, Lahore, Punjab-Pakistan.
Emails: rafiqmuhammadtariq149@gmail.com