

Guidelines for Maintaining Physical Fitness During COVID-19 Pandemic

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Abstract

The ongoing corona virus outbreak (COVID-19) has turned into a pandemic, by rapidly spreading and infecting all over the world. It left no other choice than implementing the lockdown all over the country. This lockdown has led to the development of a sedentary lifestyle among the people leaving them with inactivity, anxiety, depression and with an elevated chance of a potential aggravation of the health problems. Therefore, not just modifying people's lifestyles during quarantine and keeping an active lifestyle at home, it is very necessary for the overall population's safety, but particularly for those with additional risk factors and the elderly to conduct daily physical indoor activities and exercises. The data was collected from the electronic databases. The review includes the quarantine population of all age groups and gender. After reviewing the articles it was concluded that the multi-component full-body programs should be carried out by the population, including aerobic, strengthening, balancing and stretching exercises by modifying and utilizing both the space and material available. Doing physical exercise will help us to stay active during the quarantine period so that after the end of the crisis we will be able to resume our work without lethargy.

Keywords: Covid-19; Inactivity ; Pandemic; Physical activity; Quarantine; Sedentary lifestyle

Introduction

The Corona virus (Covid-19) was introduced in China (Wuhan) last December 2019, and the infection has spread worldwide⁽¹⁾. The World Health Organization, recognizing the worsening scenario, declared the rapidly spreading corona virus outbreak a pandemic⁽²⁾. In last three months, the virus raced all over the world with more than 19,80,700 confirmed cases till 14th April 14, 2020, With 1,25,000 deaths, and over 4,65,700 worldwide recovered. Covid-19 infection is a serious condition because it is highly and rapidly contagious⁽³⁾. In about 80 per cent of those infected, the virus causes mild respiratory infections, though about half of them

will have pneumonia. A further 15 percent experience serious illness and a further 5 percent needs urgent treatment⁽²⁾.

WHO officials recommended countries to implement a strategic combination of "containment and mitigation"⁽²⁾. The former includes attempts to identify and avoid known transmission chains by isolating cases and tracking their connections, and possibly quarantining them. Mitigation involves steps at the community level such as social distancing and lockdown. Despite the fact that a quarantine period is the best choice and recommendation for stopping the rapid spread of infections, this may have collateral effects on other dimensions of the health of isolated patients, especially those listed as at higher risk⁽⁴⁾ (those aged 65 years and those with serious heart disease, chronic lung disease, diabetes, obesity, and chronic kidney and liver disease)⁽⁵⁾. The normal routine lifestyle of these people involved physical activity and exercise to ensure an adequate state of health (e.g. in diabetes, hypertension, CVS conditions)⁽¹⁾. Staying for a long time is likely to lead to sedentary behavior, such as

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spending more time sitting or lying down for screening exercises, decreasing daily physical activity, leading to an increased risk for future health condition worsening.

Therefore, changing people's lifestyles during quarantine and maintaining an active lifestyle at home is very important for the health of the population as a whole, but particularly for those with additional risk factors and the elderly to perform routine indoor physical activities and exercises as going to be discuss further. There are some research articles published until now, but there was need to compare and summarize all the papers and make a cumulative guideline of all.

Methodology

Data source:- The data was collected from the electronic databases including, Science direct, Google scholar, Pub med, web of science ,etc. The review includes all the quarantine population of all age group and gender. The main focus was on the high risk population.

Discussion

Following the recommendations of the scientific societies, health institutions, and experts is of utmost importance. All the research articles suggest that physical exercise plays a beneficial role in the prevention of diseases, as an adjuvant treatment in chronic diseases and in psychological wellbeing. They also stated that physical exercises have protective effect on immune system especially in chronically ill patients^(5,6). Maintaining physical activity is the best way to counteract sedentary conduct and reduce the psychological effects of quarantine, as sedentariness has a well-known detrimental effect on cardiovascular function. In the present quarantine days, the available space and resources need to be modified and utilized.

In his paper, Rodriguez et al suggested conducting Multi component full-body programs like aerobics, strengthening, balance and power, mobility of coordination, and stretching exercises. They are directly related to the physiological activities of the main organs (respiratory, circulatory, muscular, nervous and skeletal systems) and are indirectly involved in the smooth functioning of other systems (endocrine, digestive, immune or renal systems)^(1,7).

Rodriguez et al, accurately summarized the guidelines of the major healthcare institutions for exercise which can be used as a physical fitness protocol⁽⁵⁾.

Physical fitness guidelines and recommendations

The indoor physical activities that can be perform during quarantine period are^(8,9):

- Ø Cardio respiratory fitness exercise
 - Walk briskly around the house
 - Stair climbing
 - Jogging or marching on the place
 - Standing or walking while using phone
 - Dancing for 15 minutes
 - Skipping rope
 - Cardio machine (if available)
 - Online exercise routines
 - Active videogames
- Ø Resistance or muscular strengthening exercise
 - Squats, sit-to-stand and stand-to-sit from a sturdy chair
 - Push-ups to the wall
 - Single-leg step-ups on stairs
 - Alternating leg lunges
 - Strength training video
 - Sit-ups or crunches
 - Weightlifting (e.g., dumbbells, bottles, packs)
 - Exercises by resistance band, or clothes, belt, etc.
- Ø As a balanced workout should incorporate pulling as well as pushing motions

The writers have brilliantly proposed an update of the international physical activity guidelines to the present situation. With the knowledge of exercise, it is also necessary to be well aware about the principle

elements of exercise program such as modality, frequency, volume, intensity, duration. In this regard, Jiménez-Pavón et al^[1] performed a critical review of the most acceptable guidelines for elements of exercise, particularly those that address the elderly. He described the guidelines as

Exercise modality:- Multi component exercise program with previously stated elements including cognitive training for elderly^(1,10).

Exercise frequency:- Recommended 5 days per week for older people, which could be increased to 5-7 days per week with volume and intensity adaptation in this particular quarantine situation^[1].

Exercise volume:-It could be suggested under the quarantine to increase to 200-400 min per week distributed between 5-7 days to compensate for the decrease in the normal daily PA levels^[1].

Exercise Intensity:- Moderate intensity (40-60 per cent heart rate reserve or 65-75 per cent maximum heart rate) should be the ideal choice for older people to enhance the protective role of exercise during quarantine times^[1].

In terms of cardiovascular health, we agree with the statement that, “something is better than nothing”. Chen et al, said the objective should be to do at least 30 minutes of moderate physical activity every day and/ or 20 minutes of vigorous physical activity every other day. Ideally we should use the combination of both intensities^[10]. Portable health gadgets simplified the quantification and monitoring of exercise routines^[4]. Nonetheless, due to the availability of many sites promoting physical activity, it is important to consult knowledge sources established by medical societies, physicians and sports health professionals in order to achieve optimum cardiovascular and skeletal muscle fitness, within the limits permitted by quarantine.

Conclusion

During this on-going COVID-19 pandemic, home stay is an inevitable fundamental safety step that can stop the widely spreading infection. But this prolonged home stay will lead to the development of sedentary behavior leading to inactivity, anxiety, depression which will ultimately lead to chronic health problem. Maintaining

the regular physical habit and adapting the new ways of doing physical exercise will help us to stay active during quarantine period and after the end of the crisis we will be able to resume our work without laziness. The population should perform multi component full-body programs including aerobic, strengthening, balance, and stretching exercises.

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