

Physical activity and home-based exercise are critical during the COVID-19 epidemic: A Survey

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Abstract

Physical activity and exercise can be helpful therapy options for depression and anxiety symptoms. Every day is a fresh chance to engage in physical activity and exercise, which may have both immediate and long-term advantages for mood, sleep, and physical health. The new coronavirus illness 2019 (COVID-19) appears to be having a significant influence on physical activity behaviours worldwide. Many individuals throughout the world have been compelled to stay at home and self-isolate for an extended length of time due of the epidemic. WHO advises 60 minutes per day of moderate-to-vigorous physical activity for children aged 6 to 17, and 75 minutes per week of vigorous or 150 minutes per week of moderate physical activity for adults and the elderly, including 3 and 2 days per week of muscle and bone building, respectively. Practical tips for remaining active at home, such as cardiovascular exercise training on a bike or rowing ergometer, bodyweight training, dancing, and active video gaming, can help to mitigate the negative physical and emotional side effects of the COVID-19 protective lifestyle rules. This article gives valuable information on home-based physical exercise for sedentary individuals of all ages, including children and adolescents, that may be done during the current pandemic or other infectious disease outbreaks. Home-based exercises allow people to keep fit and healthy by practising basic motions while staying at home.

Keywords: *physical activity, COVID-19, exercise, physical inactivity and pandemic, home-based exercise.*

Introduction

The COVID-19 epidemic is causing havoc all over the planet. Globally, significant social distancing regulations are in place, restricting people's everyday activities, and governments throughout the world are pleading with people to keep safe and stay at home. This, of course, means that most individuals will spend the majority of their time (if not all of their time) at home. People have much less opportunities to be physically active as a result of these social distancing tactics, especially if activities such as walking or cycling for transit or participating in a leisurely activity (e.g. running, walking the dog, going to the gym) are limited. Furthermore, these extreme steps make it far simpler to remain inactive at home for extended periods of time. The consequences of this physical inactivity are expected to be felt in a variety of sectors, including health and social care, as well as the mental health of individuals all over the world. Although these social distancing mechanisms are vital and necessary in our time, our bodies and brains still require physical exercise and the numerous advantages that it provides.

Definition of physical activity

Physical Activity (PA) is defined as any bodily movement produced by skeletal muscles that require energy expenditure. There are two components to physical activity that need to be considered:

- **Aerobic fitness:** This usually includes moderate to vigorous activity that makes you feel a bit warm and causes an increase in your breathing rate, breathing depth and your heart rate.
- **Strength and balance:** This is often the forgotten component of physical activity but it is an essential part and has many benefits.

Physical activity may include

- Active recreation
- Sports participation
- Cycling
- Walking

- Play
- Dance
- Gardening
- House cleaning
- Carrying heavy shopping

During the COVID-19 pandemic it is even more important for all people to be physically active. Even if it is only a short break from sitting at your desk and doing some walking or stretching. Doing something as simple as this will:

- Ease Muscle Strain
- Relief Mental Tension
- Improve Blood Circulation
- Improve Muscle Activity
- Create Some Routine to Your Day in These Unprecedented Times.

The importance of physical activity during the COVID-19 pandemic

In light of the current situation worldwide, certain benefits of physical activity may be specifically pertinent to the COVID19 Pandemic. These benefits are:

- Physical activity enhances immune function and reduces inflammation therefore it could reduce the severity of infections.
- Physical activity improves common chronic conditions that increase the risk for severe COVID-19 (i.e. Cardiovascular Disease, Diabetes).
- Physical activity is a great stress management tool by reducing symptoms of anxiety and depression.
- Physical activity helps bring cortisol levels in balance. Stress and distress (such as during a pandemic) creates an imbalance in cortisol levels and this negatively influences immune function and inflammation.

How to stay safe while exercising during COVID-19

- Do not exercise if you have a fever, cough or difficulty breathing (symptoms of COVID-19).
- Practise social distancing when exercising outdoors and practice good hand hygiene before and after.
- If you are not used to physical activity, start slowly with low intensity activities such as walking or low impact exercises for shorter periods of time and gradually build up over time.
- Choose the right activity to reduce the risk of injury; the intensity of the exercise should match your fitness levels and health status.

How much physical activity is recommended for your age group?

WHO has recommendations on the amount of physical activity people of all ages should do to benefit their health and wellbeing.

Infants under 1 year of age

- All infants should be physically active several times a day.
- For those not yet mobile, this includes at least 30 minutes in prone position (tummy time), as floor-based play, spread throughout the day while awake.

Children under 5 years of age

- All young children should spend at least 180 minutes a day in a variety of types of physical activities at any intensity
- 3-4-year-old children should spend at least 60 minutes of this time in moderate- to vigorous-intensity physical activity

Children and adolescents aged 5-17 years

- All children and adolescents should do at least 60 minutes a day of moderate to vigorous-intensity physical activity
- This should include activities that strengthen muscle and bone, at least 3 days per week
- Doing more than 60 minutes of physical activity daily will provide additional health benefits.

Adults aged over 18 years

- All adults should do at least 150 minutes of moderate-intensity physical activity throughout the week, or at least 75 minutes of vigorous-intensity physical activity throughout the week.
- For additional health benefits, adults should increase their moderate-intensity physical activity to 300 minutes per week, or equivalent.
- For developing and maintaining musculoskeletal health, muscle-strengthening activities involving major muscle groups should be done on 2 or more days a week
- In addition, older adults with poor mobility should do physical activity to enhance balance and prevent falls on 3 or more days per week.

Examples of home-based exercises

Home-based activities provide an opportunity for people to stay fit and healthy by practising simple movements while staying at home. Many countries have now implemented lockdowns, forcing people to stay at home and only go out in the event of an emergency. These decisions will affect peoples' mental and physical health, especially those who are used to regular outdoor physical activities. We are all aware of the importance of our mental health and the need to improve our immune system, which is extremely important for fighting sickness. Staying at home can lead to a lot of stress, anxiety and mental distress. The best way to overcome these problems is to replace outdoors activities with homebased activities, such as bodyweight training and dance-based aerobic exercise, and if possible, aerobic high-intensity exercise using stationary bikes or rowing ergometers, also with self-paced protocols. These activities can be combined with, but not substituted by, stretching and active gaming. To support individuals in staying physically active while at home, WHO has prepared a set of examples of home-based exercises.

Conclusion

Normally, home-based and regular physical exercise program can provide an opportunity for people to stay physically healthy by practicing simple movements with low-moderate to high intensity in the time of staying at home. The best way to overcome COVID-19 associated problems is to substitute outdoor regular exercise program with homebased/individualized/regular exercise program, such as bodyweight training and dance-based aerobic exercise, and if possible, aerobic high-intensity exercise using different machines, also with self-paced protocols. These physical exercises can be combined with, but not substituted by, stretching and active gaming. The great importance of a healthy diet during this pandemic period also should give more attention. Generally, maintaining a regular physical activity raining, carefully in a park setting or safely at home, is a helpful strategy

to reduce the consequences of this pandemic, both at the physical and mental level. The time spent at home could therefore be changed into by participating mostly in home based aerobic exercise to build a positive and mindful relationship with the long-term health benefits of exercising.

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