

Physical activity at home during the COVID-19 lockdown in India: Need of the hour for optimum physical health and psychological resilience

Suraj CHAWLA¹, Manisha KOCHER²

Affiliations:

¹ MD, Associate Professor, Department of Community Medicine, Shaheed Hasan Khan Mewati Government Medical College, Nalhar, Haryana, India

² MPT, Physiotherapist, Shaheed Hasan Khan Mewati Government Medical College, Nalhar, Haryana, India.

Corresponding author:

Dr. Suraj Chawla, Department of Community Medicine, Shaheed Hasan Khan Mewati Government Medical College, Nalhar, Haryana, India-122107. E-mail: surajpgirohtak@gmail.com

Abstract

Coronavirus disease 2019 (COVID-19) is an infectious disease caused by the most recently discovered Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV2). World Health Organization (WHO) has advised certain precautions to shield uninfected people and prevent the spread of COVID-19 like frequent cleaning of hands with soap and water or alcohol-based rub, avoid touching eyes, nose and mouth with the hands, follow good respiratory hygiene and exercise physical distancing measures. The closure of gyms, fitness clubs, parks, and other public places due to lockdown and other social distancing measures, however, is challenging the physically active lifestyle, particularly for those who are not habitual to exercise at home. Regular physical activity benefits both physical and mental health. It can reduce high blood pressure, help manage overweight, improve immune regulation, reduce the risk of getting heart disease, type 2 diabetes, stroke, and various cancers- all conditions which increase vulnerability to COVID-19. In this viewpoint we overview several ways to stay active and reduce sedentary behavior while at home such as short active breaks and exercises, breaking up sitting, using online resources for being active, deep breaths, and meditation. Maintaining regular physical activity using the aforementioned measures in a safe home environment is an important strategy for physical health and emotional resilience during the coronavirus crisis.

KEY WORDS: COVID-19; lockdown; physical activity; physical health; psychological resilience.

Riassunto

La malattia da Coronavirus 2019 (COVID-19) è una patologia infettiva causata dal più recente dei coronavirus, quello denominato Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV2). L'Organizzazione Mondiale della Sanità ha consigliato alcune precauzioni per proteggere le persone suscettibili e prevenire la diffusione del Covid-19, come il frequente lavaggio delle mani con acqua e sapone o con gel a base alcolica, evitare di toccare occhi, naso e bocca con le mani e seguire misure di buona igiene respiratoria e di esercizio fisico a distanza. La chiusura di palestre, centri fitness, parchi e di altri luoghi pubblici per il lockdown e le altre misure di distanziamento sociale, tuttavia, rappresentano una sfida ad uno stile di vita attivo dal punto di vista fisico, in modo particolare per chi non si allena abitualmente a casa. L'attività fisica regolare è benefica per la salute fisica e mentale. Essa può ridurre l'ipertensione arteriosa, aiutare nella gestione del sovrappeso, migliorare il funzionamento del sistema immunitario, ridurre il rischio di malattia coronarica, di diabete mellito tipo 2, di ictus e di vari tipi di cancro, tutte condizioni che possono aumentare la vulnerabilità al Covid-19. In questo lavoro, facciamo una sintesi dei diversi modi con cui mantenersi in attività e ridurre lo stile di vita sedentario a casa, ovvero come prendersi brevi pause attive e fare esercizi fisici, interrompendo la postura seduta fissa, usare risorse online per mantenersi attivo, respirare profondamente e meditare. Mantenere un'attività fisica regolare usando le misure appena evidenziate in un ambiente domestico sicuro è un'importante strategia per mantenere la salute fisica e la resilienza emotiva durante la crisi da Coronavirus.

TAKE-HOME MESSAGE

The COVID-19 social distancing measures do not necessarily mean that physical activity or all forms of exercise must be curtailed entirely. Maintaining regular physical activity in a safe home environment is an important strategy for physical health and emotional resilience during the coronavirus crisis.

Competing interests - none declared.

Copyright © 2020 Suraj Chawla et al Edizioni FS Publishers

This is an open access article distributed under the Creative Commons Attribution (CC BY 4.0) License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. See <http://www.creativecommons.org/licenses/by/4.0/>.

Cite this article as: Chawla S, Kocher M. Physical activity at home during the COVID-19 lockdown in India: Need of the hour for optimum physical health and psychological resilience. J Health Soc Sci. 2020;5(2):187-192

DOI 10.19204/2020/phys8

Received: 13/06/2020

Accepted: 28/06/2020

Published Online: 30/06/2020

INTRODUCTION

Coronavirus disease 2019 (COVID-19) is an infectious disease caused by the most recently discovered Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV2). This novel virus was unknown before the outbreak occurred in Wuhan, China, in December 2019. COVID-19 is now a pandemic affecting many countries across the globe [1]. World Health Organization (WHO) has advised certain precautions to shield uninfected people and prevent the spread of COVID-19 like frequent cleaning of hands with soap and water or alcohol-based rub, avoid touching eyes, nose and mouth with the hands, follow good respiratory hygiene and exercise physical distancing measures [2]. Physical distancing or social distancing measures include maintaining a distance of six feet (2 meters) from another person, work from home if possible, stop visiting overcrowded places, stay home, and self-isolating oneself even with minor symptoms like cough, headache, and mild fever [3]. To date, most of the affected countries have imposed various levels of lockdown restrictions to contain the spread of COVID-19. The closure of gyms, fitness clubs, parks, and other public places, therefore, is challenging the physically active lifestyle, particularly for those who are not habitual to exercise at home.

On 24 March 2020, the Government of India ordered a nationwide lockdown, limiting movement of the entire 1.3 billion population of India. The lockdown which is still in force has restricted people from stepping out of their homes. Although stringent lockdown is limited to containment zones now and comparatively eased in other areas, yet transport services such as road, air, and rail are curtailed across the country with exceptions for transportation of essential goods, firefighters, police, healthcare workers and other emergency services. Educational institutions, shopping malls, fitness clubs, gyms are closed and hospitality services are suspended from the last three months [4].

In India, to exercise social distancing, most of the people except healthcare providers, police

personnel, firefighters, and other essential and emergency service providers are staying at home and sitting down more than they usually do. These measures are causing changes in everyday schedules and disrupting physical activity routines for several.

Existing literature suggests that physical exercise at home is easily carried out and will help maintain fitness levels. Also, performing household tasks contributes significantly to total energy expenditure, especially for the elderly [5]. A study conducted in Brazil shows that well-being related to the practice of physical activity during the homestay is linked to an established routine of physical activity before the social isolation period [6].

Thus, the present viewpoint aims to highlight the importance of physical activity and to explore ways to remain physically active at home caused by lockdown and other social distancing measures during the COVID-19 pandemic, especially in India's context. We hope this might create interest and improve one's confidence to be active during this pandemic.

DISCUSSION

Generally, according to WHO, one in four adults is not active enough while more than 80% of adolescents are insufficiently physically active globally [7]. The COVID-19 social distancing measures in India imply a huge population at risk for developing diabetes and other non-communicable diseases due to lack of physical activity. This emphasizes the urgent need to improve overall physical activity levels with specific reference to recreational physical activity. Home workouts can give people the freedom to work out at their own will, without time restrictions. During the homestay, some people are also less conscious and able to perform better, with nobody around. As people stay home, they are finding new, innovative ways to replace the gym equipment and find their way to fitness. Although house size, age, and ethnicity do not appear to hinder physical activity for most of the Indians yet children are missing their favorite form of physical activity i.e. playing outdoors

during the lockdown.

In prevailing circumstances, it is vital for people of all ages and abilities to be as active as possible. The COVID-19 measures do not necessarily mean that physical activity must be restricted or that all forms of exercise must be curtailed entirely. Exercise has been shown to own clear health benefits for healthy individuals and patients with various diseases [8, 9]. Regular physical activity benefits both physical and mental health. It can reduce high blood pressure, help manage overweight, improve immune regulation, reduce the risk of getting heart disease, type 2 diabetes, stroke, and various cancers- all conditions which increase vulnerability to COVID-19. It also increases muscle strength and flexibility and improves balance and fitness. For elderly people, activities that improve balance help to forestall falls and injuries. Regular physical activity can assist in making a routine and be the way to remain in-tuned with family and friends. It is also good for our psychological state because it reduces the risk of depression, cognitive decline and delay the onset of dementia, and improve overall feelings. Physical activity and relaxation techniques could also be valuable tools to stay calm and improve night's sleep quality which successively strengthens immunity [10].

Ways to be physically active at home

WHO recommends 150 minutes of moderate-intensity or 75 minutes of vigorous-intensity physical activity per week, or a combination of both for healthy adults and 1 hour/day physical activity for children [10]. These recommendations are still achievable even at home, with no sophisticated equipment and with limited space. The following activities are some ways to stay active and reduce sedentary behavior while at home during the COVID-19 pandemic.

Short active breaks and exercises

Short spells of physical activity add up to the weekly recommendations. Dancing to music for few minutes, playing with children, walking up and down the stairs, skipping ro-

pes, and performing domestic chores such as washing the car, cleaning the garage, mowing the lawn, and gardening are other means to stay active at home. Exercise is also an excellent opportunity for household members' fun. Backyard games, living-room yoga sessions, active video games are just a few examples of how family members can exercise together. Some strengthening exercises such as the jumping jacks, plank, squats, lunges, chair dips, crunches, back extension, knee to elbow, and bridge etc. are extremely helpful in staying physically active [11-13].

Break up sitting and standup

Sedentary time needs to be reduced by standing up whenever possible. Ideally, people at home must always aim to interrupt sitting and reclining time every 30 minutes. Setting up a standing desk by employing a high table or stacking a pile of books or other materials, is a good way to continue working while standing. During sedentary leisure time, rather than sitting idle, one should prioritize cognitively stimulating activities like reading, board games, and puzzles. Even in small spaces, walking around or walking on the spot, can facilitate to remain active. During a phone call, one should stand or walk around the home while speaking and interrupt sitting while working or watching television [10, 11].

Seek exercise resources online

It is advisable to take advantage of the wealth of online exercise classes, yoga, cardio kickboxing, dance, and Pilates. Many of these are free and may be found on YouTube. If one has got no experience performing these exercises, he/she should do the simpler ones, and should also be cautious and aware of limitations. If finances do not seem to be an issue, taking virtual exercise classes or training from a fitness studio could also be considered. Additionally, having a class or training session on the calendar allows people to interact with each other in an exceedingly fun way, which can be just the motivation one wishes to keep up with the fitness regime [11, 12, 14]. The virtual exercise classes are a great way to stay

Table 1. Description of some easy to do exercises at home and their health benefits [11, 13].

Type of activity/exercise	Steps to do	Health benefits
Jumping Jacks	Stand straight with feet together and hands on sides. Jump along with raising arms above the head and bring feet apart. Reverse the movement immediately and come back to the original position. Perform it 15 times, rest for 30 seconds, and then repeat.	Jumping jacks are the best cardio exercise. It strengthens heart, muscle and bone. It also helps in weight reduction and uplift mood instantly and relieves stress.
Plank	Get into pushup position with elbows bent in 90 degree keeping body weight on forearms and toes. Ensure the body forms a straight line from head to feet. One should hold on to the position as long as one can.	It is the best exercise for core/abs strengthening. A simple exercise for beginners and also makes shoulder, arms and back strong.
Squats	Start with the hips back with back straight, chest and shoulders up. Bend knees and squat down keeping them in line with your feet. Start with 10-15 squats a day and then increase.	It helps get in better shape when included in daily workout plan. It strengthens lower body muscles.
Lunges	Step forward with one leg while keeping upper body straight and relaxed then lower the hip until both knees bent in 90-degree angle. Repeat 10 times with each leg in front.	It is very good work out on the core that helps strengthen lower body and mobility in hips.
Chair dips	Hold onto the seat of a chair with palms and keep feet about half a meter away from the chair with knees 90 degree bent. Bend arms while lowering hips to the ground, then straighten the arms. Perform this exercise 10 times (or more), rest for 30 seconds, and then repeat.	This exercise strengthens triceps muscles.
Crunches	Lie flat on back and bend knees with feet flat on the floor. Place both the hands loosely behind the head. Now, bring right shoulder and elbow across the body and at the same time bring up left knee towards left shoulder. Try to touch knee with elbow. Go back to the original position and repeat the same with the left elbow. Perform it 15 times and repeat after 30 seconds rest.	It is more effective and easy exercise for abs and the oblique muscles. It strengthens the core and strengthens abdominal muscles.

active and stick to fitness routine. Several fitness experts also share daily fitness and exercise videos to encourage people to stay active. The important thing is to search out a sort of workout that is more of a joy than a chore, and then to stick to it while adding some occasional variety for an additional challenge and sustainable motivation.

Meditation, deep breaths, and healthy eating

Meditation and deep breaths can help remain calm [11]. For optimal health, it is also vital to eat healthily and stay hydrated. COVID-19 concerns may affect dietary habits, leading to the consumption of higher calories which may promote weight gain. WHO recommends drinking plenty of water rather than sugar-sweetened beverages, limit or avoid alcoholic beverages for adults and strictly avoid these in youngsters, and pregnant and breastfeeding women. It also recommends plenty of fruits and vegetable intake, limiting the intake of salt, sugar and fat, and the consumption

of whole grains instead of refined foods [15].

CONCLUSION

Given the increasing spread of COVID-19, it is imperative to stay at home for extended periods because this safety step can limit infection from spreading widely. But prolonged homestays during the pandemic can lead to a sedentary lifestyle known to end in a variety of chronic health conditions. Although it is challenging to maintain a physically active lifestyle during the pandemic, people in quarantine should put effort to create and comply with new fitness routines, as regular physical activity can help in maintaining heart health, muscle strength, and flexibility. Besides improving sleep quality, being physically active is good for mental health too. It has to be understood that doing any activity in and around the home is better than none at all. Maintaining regular physical activity using the aforementioned measures in a safe home environment is an important strategy for physical health and emotional resilience during the coronavirus crisis.

References

1. Guan WJ, Ni ZY, Hu Y, Liang WH, Ou CQ, He JX, et al. Characteristics of Coronavirus Disease 2019 in China. *N Engl J Med.* 2020;382(18):1708–1720. doi:10.1056/NEJMoa2002032.
2. World Health Organization. Novel coronavirus (2019-nCoV) advice for the public. Geneva: World Health Organization; 2020 [cited 2020 June 23]. Available from: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public>.
3. Centers for Disease Control and Prevention. Social distancing: Keep your distance to slow the spread. Atlanta: Centers for Disease Control and Prevention; 2020 [cited 2020 June 10]. Available from: <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/social-distancing.html>.
4. Wikipedia contributors. COVID-19 pandemic lockdown in India. Wikipedia, The Free Encyclopedia; 2020 [cited 2020 Jun 23]. Available from: https://en.wikipedia.org/w/index.php?title=COVID19_pandemic_lockdown_in_India&oldid=963554640.
5. Ratzlaff CR, Doerfling P, Steininger G, Koehoorn M, Cibere J, Liang M, et al. Lifetime trajectory of physical activity according to energy expenditure and joint force. *Arthritis Care Res (Hoboken).* 2010;62(10):1452–1459. doi:10.1002/acr.20243.
6. De-Abreu JM, De-Souza RA, Viana-Meireles LG, Fernandez JL, Filgueiras A. Effects of physical activity and exercise on well-being in the context of the Covid-19 pandemic. *medRxiv.* 2020. doi:10.1101/2020.06.08.20125575.
7. World Health Organization. Physical activity. Geneva: World Health Organization; 2018 [cited 2020 June 23]. Available from: <https://www.who.int/news-room/fact-sheets/detail/physical-activity#:~:text=Globally%2C%201%20in%204%20adults,activity%20by%2010%25%20by%202025>.
8. U.S. Department of Health and Human Services. Physical activity guidelines for Americans. 2nd ed. Washington, DC: U.S. Department of Health and Human Services; 2018.
9. Luan X, Tian X, Zhang H, Huang R, Li N, Chen P, et al. Exercise as a prescription or patients with various diseases. *J Sport Health Sci.* 2019;8:422–441.
10. World Health Organization. Healthy at home – physical activity. Geneva: World Health Organization; 2020 [cited 2020 June 11]. Available from: <https://www.who.int/news-room/campaigns/connecting-the-world-to-combat-coronavirus/healthyathome/healthyathome---physical-activity>.
11. World Health Organization Regional Office for Europe. Stay physically active during self-quarantine. Copenhagen: World Health Organization Regional Office for Europe; 2020 [cited 2020 June 10]. Available from: <http://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/novel-coronavirus-2019-ncov-technical-guidance-OLD/stay-physically-active-during-self-quarantine>.
12. Nuvance Health. Exercise is Essential for Well-Being During COVID-19 Pandemic. Nuvance Health. Weblog [cited 2020 June 08]. Available from: <https://patients.healthquest.org/exercise-is-essential-for-well-being-during-covid-19-pandemic/>.
13. Urban clap editorial. 10 Best exercises to do at home for men. Urban guide. Weblog [cited 2020 June 28]. Available from: <https://www.urbancompany.com/blog/lifestyle/health/10-best-beginners-exercises-to-do-at-home-for-men/>.
14. Tate DF, Lyons EJ, Valle CG. High-tech tools for exercise motivation: use and role of technologies such as the internet, mobile applications, social media, and video games. *Diabetes Spectr.* 2015;28:45–54.
15. World Health Organization. Healthy at home – healthy diet. Geneva: World Health Organization; 2020 [cited 2020 June 10]. Available from: <https://www.who.int/news-room/campaigns/connecting-the-world-to-combat-coronavirus/healthyathome/healthyathome---healthy-diet>.