



## Pre-eminence of Moderate to Robust Physical Activity in Battling COVID-19: A Narrative Review

Tasneem M. Lakkadsha, Kiran Kumar, Waqar M. Naqvi, Pratik Phansopkar\*

Department of Musculoskeletal Physiotherapy, Ravi Nair Physiotherapy College, Datta Meghe Institute of Medical Sciences, Wardha, Maharashtra, India



### Article History:

Received on: 05 Jul 2020  
Revised on: 28 Jul 2020  
Accepted on: 06 Aug 2020

### Keywords:

COVID-19,  
Pandemic,  
Physiotherapy,  
Telerehabilitation,  
Physical Activity

### ABSTRACT

In January 2020, we met with COVID-19 (aka SARS-Co-V-2 and/or Corona virus) on our news channels all the way from china. Little did we know that it would shake up our lives in such a manner that we had heard only in a movie or read in history books. Currently we are all in some sort of lockdown, be it in hospital/home or in our minds. Being there, most of us are facing certain kind of misery, be it emotional, mental, physical or social. To be expansive the most common stresses that have been addressed by people on mass media platform are feeling of depression and isolation caused by being away from family and friends, some are complaining of losing their enthusiasm, some of gaining weight, some of losing it and many more. Going through a pandemic is also helping people in some or the other way, one of which is being concerned about their health and habits to keep themselves fit and away from serious comorbidities which can stem out from physical inactivity and heightened stress levels. There are many ways to stay fit at home without any complex gym equipment, but far less is known about it. Thus, an understanding of methods through which one can become physically active with least complexity, easy availability, and appropriate utilization is need of the hour.

### \*Corresponding Author

Name: Pratik Phansopkar  
Phone:  
Email: [drpratik77@gmail.com](mailto:drpratik77@gmail.com)

ISSN: 0975-7538

DOI: <https://doi.org/10.26452/ijrps.v11iSPL1.3203>

Production and Hosted by

IJRPS | [www.ijrps.com](http://www.ijrps.com)

© 2020 | All rights reserved.

### INTRODUCTION

Novel Corona Virus disease (COVID-19) outbreak was declared as pandemic on 11 March 2020 by WHO which reiterated the call for countries to take immediate actions and scale up response to detect, manage and decrease transmission to salvage lives of people all over the globe. As of 3 August 2020,

the following cases have been reported exclusively in India (Table 1). ([Coronavirus, 2020](#)) COVID is considered the world's unparalleled pandemic ([Shah and Naqvi, 2020](#)).

With active assistance of India's populace, we have been able to contain the spread of the virus. A critical factor in reducing the COVID-19 spread locally is by providing the population with right information and adopting preventive measures as given by the Ministry of Health & Family Welfare advisories ([WHO Coronavirus Disease, 2020](#)). The COVID 19 situation created unnecessary panic and caused hindrance in the fight against the disease ([Dutta et al., 2020](#)).

Staying at home is a simple safety measure which aids in limiting infection spread. Nevertheless, prolonged stays at home might increase risk of chronic health problems, depression and anxiety. Such habits include inactivity; decreased enthusiasm and motivation to work; leading to a seden-

tary lifestyle (Srivastava *et al.*, 2020). An effective healthy living strategy during this catastrophe is to maintain daily physical activity in a secure house setting (Simpson *et al.*, 2020). Helping older adults to inculcate early and healthy ways to stay physically active in limited space is extremely crucial (Goethals *et al.*, 2020).

## MATERIALS AND METHODS

Restriction of physical activity arose due to COVID-19 pandemic, but maintaining exercise could decrease infection risk and alleviate the consequences of lock down (Fallon, 2020). Almost every country affected has imposed massive restrictions on public and private life (Sahu and Naqvi, 2020), here the population's opportunities for physical activity have been severely hampered; hence, providing joint contribution of sports science and sports medicine to provide scientifically based recommendations for exercise in times of COVID-19 lockdown is vital (Frühauf *et al.*, 2020). To avoid arbitrary conclusions, a reasonable exercise planning must be proposed by scientific research society (Li, 2020). It's proven that structured workout plans helps sustain physical activity performances and  $VO_2$  max and avoid deconditioning.  $VO_2$  max also possesses the capability to be used as a clinically appropriate tool for triage through COVID-19 pandemic (Ahmed, 2020).

Physical activity forestalls infection, improves the immunity, aids with stress reduction, increase psychological well-being etcetera. The outcomes are even more beneficial if the activities are outdoor (Frühauf *et al.*, 2020). Among the steps taken to combat the pandemic is the shutting down of gyms, prohibition of open space use for exercising, thus disrupting fitness of athletes and others. This interruption leads practitioners to undergo a readjustment of the entire body's biological system, a process known as detraining (Simpson *et al.*, 2020).

This review article is given behind the purpose to emphasise the importance of moderate to robust physical activity during the lockdown, firstly to maintain physical and mental well-being, secondly as a measure of limiting the noncommunicable diseases such as diabetes mellitus, coronary artery disease, osteoarthritis etcetera, although it is unlikely that several weeks of in-activity will result in the onset of severe diseases, the consequences of inactivity should not be ignored, and thirdly to increase the immunity of the body which is required to fight against various infections.

With each bout of moderate to robust intensity exercise, frequent exchange of immune cells between the

blood and the tissues occur which contributes to increased immune surveillance, higher productivity and overall healthier lifestyles (Campos and Miguel, 2020).

## RESULTS AND DISCUSSION

### Exercise Programs

At least 2.5 hours of moderate intensity physical activity every week is advocated by the World Health Organization (WHO) to maintain physical and mental health in adults. For children and adolescents, these recommendations are as high as 60 minutes per day. In addition to a strong need for movement, these age groups shows correlation between motor development and cognitive abilities (Sibley and Etnier, 2003). In the scenario of worldwide lockdown there are numerous ways to fulfil the need to be physically involved, starting with.

### Least home equipment exercises

These include climbing stairs, walking in/out of the house as appropriate, leg lunges, lifting and carrying groceries, chair squats, stand-to-sit and sit-to-stand from the floor or using a chair, push ups, sit-ups etcetera. Furthermore, traditional Qigong exercises, Tai Ji Quan and yoga can be viewed as they are least equipment requiring and lesser space occupying (Chen *et al.*, 2020).

### Aerobics at home

These include dancing, jogging, skipping etcetera. These help the regular strenuous exercisers to keep up with their endurance, power and strength even after a long period of not performing their regular routine.

### Elastic resistance training

Elastic resistance have low cost in acquisition, use of implements, easy applicability, needs small physical spaces, easy adaptation for the individuality and specificity of the practitioner etcetera.

Two different ways of carrying out this methodology is: Hybrid elastic resistance, where elastic resistance (bands or tubes) is used along with standard weights, and simply the elastic resistance where just the elastic tubes and/or bands are utilized. Different levels of resistance can be distinguished by colours, which makes it possible to use them with the desired degree of resistance. This possibility allows it to be effective for any age-group. Planning the program can be by defining the band/tube to be used (based on grade and/or colour), next the intensity and frequency of performance (Simpson *et al.*, 2020).

### Jogging and hiking

**Table 1: Number of COVID cases encountered in India**

Number of COVID cases encountered in India	
Number of cases at till date	18,22,112
Number of cases recovered till date	12, 00,303 (97%)
Number of deaths occurred	38,400 (3%)

jogging and hiking practiced by non-risk groups on wide forest roads and easy forest trails, where keeping adequate safe distance is possible, poses a low risk of injury as well as contagion/spread of disease. On the contrary, there are numerous positive effects on physical and mental health, which far outweigh the low risks associated with injuries (Frühauf *et al.*, 2020).

### Telerehabilitation

Using exercise videos and eHealth technologies which can help with encouragement and delivering workout programs via mobiles, television and internet are other effective ways to preserve exercise capacity, physical function and mental wellbeing (Chen *et al.*, 2020). People with limited mobility due to quarantine/lockdown must be benefited to decrease the risk of sarcopenia, frailty, depression and cognitive decline (Ceravolo *et al.*, 2020).

### CONCLUSION

Staying active during this global pandemic is of utmost importance for every age group. This lessen their sedentary lifestyle, increases immunity, helps with betterment of their mental and physical health.

Some of the modes of physical activity which can be done at confined spaces have been summarised such as, Home exercises - walking, jogging, stair climbing, lunges, squats, dancing, skipping, weightlifting, elastic resistance band strengthening, stretching etc. Outdoor exercises (under absolute government obligated precautions): jogging, brisk walking, hiking etc. Tele-programs including series of youtube workouts or simply a conference call with a professional.

### Funding Support

The authors declare that they have no funding support for this study.

### Conflict of Interest

The authors declare that they have no conflict of interest for this study.

### REFERENCES

Ahmed, I. 2020. COVID-19 - does exercise prescription and maximal oxygen uptake (VO<sub>2</sub> max) have a

role in risk-stratifying patients? *Clinical Medicine*, 20(3):282-284.

Campos, M. V. A., Miguel, H. 2020. Elastic resistance training: resistance exercise alternative in the home environment during Covid-19 pandemic. *InterAmerican Journal of Medicine and Health*, 3.

Ceravolo, M. G., Sire, A. D., Andrenelli, E., Negrini, F., Negrini, S. 2020. Systematic rapid "living" review on rehabilitation needs due to COVID-19: update to March 31st. *European Journal of Physical and Rehabilitation Medicine*, 56(3):343-357.

Chen, P., Mao, L., Nassis, G. P., Harmer, P., Ainsworth, B. E., Li, F. 2020. Coronavirus disease (COVID-19): The need to maintain regular physical activity while taking precautions. *Journal of Sport and Health Science*, 9(2):103-104.

Coronavirus, I. 2020. India Coronavirus:(2020) 1,822,112 Cases and 38,400 Deaths - Worldometer.

Dutta, S., Acharya, S., Shukla, S., Acharya, N. 2020. COVID-19 Pandemic- Revisiting the Myths. 7:4-4.

Fallon, K. 2020. Exercise in the time of COVID-19. *Australian Journal of General Practice*, 49.

Frühauf, A., Schnitzer, M., Schobersberger, W., Weiss, G., Kopp, M. 2020. Jogging, nordic walking and going for a walk - inter-disciplinary recommendations to keep people physically active in times of the covid-19 lockdown in Tyrol, Austria. *Current Issues in Sport Science (CISS)*.

Goethals, L., Barth, N., Guyot, J., Hupin, D., Celarier, T., Bongue, B. 2020. Impact of Home Quarantine on Physical Activity Among Older Adults Living at Home During the COVID-19 Pandemic: Qualitative Interview Study. *JMIR Aging*, 3(1):e19007-e19007.

Li, J. 2020. Rehabilitation management of patients with COVID-19: lessons learned from the first experience in China. *European Journal of Physical and Rehabilitation Medicine*, 56(3):335-343.

Sahu, A., Naqvi, W. M. 2020. Floating countries and corona pandemic: Impact of COVID-19 on stranded Cruise ships. *International Journal of Research in Pharmaceutical Sciences*, 11(SPL1):219-223.

Shah, P., Naqvi, W. 2020. Fighting And Chas-

- ing The Rogue Virus-Covid19. *International Journal of Research in Pharmaceutical Sciences*, 11(SPL1):77-80.
- Sibley, B. A., Etnier, J. L. 2003. The Relationship between Physical Activity and Cognition in Children: A Meta-Analysis. *Pediatric Exercise Science*, 15(3):243-256.
- Simpson, R. J., Campbell, J. P., Gleeson, M., Krüger, K., Nieman, D. C., Pyne, D. B. 2020. Can exercise affect immune function to increase susceptibility to infection? *Exerc Immunol Rev*, 26:20-20.
- Srivastava, K. C., Shrivastava, D., Chhabra, K. G., Naqvi, W., Sahu, A. 2020. Facade of media and social media during COVID-19: A review. *International Journal of Research in Pharmaceutical Sciences*, 11(SPL1):142-149.
- WHO Coronavirus Disease 2020. WHO Coronavirus Disease (2020) Dashboard .WHO Coronavirus Disease (COVID-19) Dashboard. 19 July 2020.