
COVID-19 PANDEMIC, PHYSICAL ACTIVITY AND HEALTH AMONG ADULTS

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ABSTRACT

Strict public health measures were taken during the COVID-19 pandemic to reduce disease transmission such as lockdowns and closure of public areas. Being housebound and sedentary increases risks for obesity and non-communicable diseases. During the pandemic, some studies reported a general decrease in physical activity (PA), especially among males and young adults, while other studies reported a PA increase among women. Low PA levels were associated with poor mental health and well-being. Being sedentary also increases the risk of severe COVID-19 symptoms if infected. Maintenance of good PA levels should be stressed during a pandemic and social isolation.

KEYWORDS: Physical Activity, COVID-19, Pandemic, Stress, Non-communicable Disease

INTRODUCTION

COVID-19 is a respiratory illness caused by the severe acute respiratory syndrome coronavirus 2, which began as an outbreak in China in 2019 and rapidly spread worldwide. COVID-19 is highly contagious and causes mild to severe respiratory illnesses. During the COVID-19 pandemic, many countries introduced precautionary measures to reduce its transmission. These measures included lockdowns of cities, movement/travel restrictions, school and park closures, physical distancing, and cancellations of public activities. Such measures caused many to be isolated and housebound, which may contribute to sedentary living and obesity, especially if coupled with overeating.

Physical activity levels during the COVID-19 pandemic

Physical activity (PA) is any bodily movement produced by skeletal muscles that requires energy. This includes walking, cycling, sports, active recreation, and play. The World Health Organization (WHO) recommends at least 150 to 300 minutes of aerobic moderate-intensity PA a week, 75 to 150 minutes of vigorous-intensity aerobic PA a week, or an equivalent combination of moderate and vigorous-intensity activity throughout the week (WHO 2023). Studies during the COVID-19 pandemic observed changes in physical activity (PA) patterns among adults, which may be associated with gender, age, and existing medical conditions. In the United Kingdom (UK), among adults surveyed, 43% reported less, 25% more, and 32% maintained PA levels. Increased sedentary behavior, such as sitting and reclining, was reported by half of the study respondents (Spence et al. 2020). Reduced PA was also observed among the elderly and patients with chronic conditions (Goethals et al. 2020; López-Sánchez et al. 2020). A multi-country study involving the UK, Ireland, Australia, and New Zealand reported that 74% of those who previously did not meet the recommended daily PA levels increased their PA at the beginning of the pandemic. More women reported positive changes in exercise behavior compared to men (16% versus 12%), and negative changes were seen in younger adults (Faulkner et al. 2021). In Switzerland and France, increased walking and moderate-intensity PA were observed among women (Cheval et al. 2021). In Malaysia, women reported increased PA compared to before the COVID-19 pandemic, while males reported a reduction. However, PA levels were similar between both sexes. Women carried out more home-based activities, such as gardening and following exercise sessions online or on television/video. Men reported that the pandemic disrupted their usual PA routine as sports activities were canceled and they found it challenging to begin new exercise routines (Syed Shiekh and Marathamuthu 2021). A qualitative study in Canada conducted by Petersen and colleagues (2021) received positive feedback from participants who appreciated the opportunity to try new physical activities during the pandemic. Motivated adults and those who perceived an opportunity were more likely to maintain or increase PA under pandemic conditions (Spence et al. 2021).

Physical activity and health

Being male, sedentary, overweight or obese, elderly, and having noncommunicable diseases (NCDs) such as high blood pressure, diabetes, and cardiovascular disease are risk factors for severe COVID-19 symptoms if infected (Sallis et al. 2021). Regular PA is important for the prevention and management of obesity and NCDs (WHO 2023). The public should be encouraged to take steps to tackle modifiable risk factors to protect their health against severe COVID-19 disease. PA also improves mental health and well-being (WHO 2023). During the pandemic, individuals who reported reductions in PA levels experienced poorer mental health and well-being compared to those who maintained or increased their PA levels during self-isolation (Faulkner et al. 2021). A study in Brazil reported that those who were sedentary for ten or more hours daily were more likely to have depressive symptoms (Schuch et al. 2020). PA should be promoted as a coping mechanism to reduce stress and mood disorders due to social restrictions imposed during the pandemic.

Physical activity promotion during a pandemic

It is important to promote healthy PA levels among adults during a pandemic, as a significant proportion of adults are workers and contribute to a nation's development. A sedentary lifestyle during a pandemic increases the risks of weight gain, poorer mental health, and the development of NCDs. PA or exercise programs should prioritize safety, such as physical distancing, good ventilation of exercise areas, and sanitizing surfaces. PA that does not require much space or expense could be encouraged. Wearable technology, such as smartwatches that monitor movement, can aid efforts to keep active. Online health education and exercise classes can be tailored for different population groups. Healthcare providers should also be alert to prevent or manage any mood disorders and stress resulting from social isolation and pandemic conditions. Encouraging a healthy lifestyle that includes being active can also promote psychological well-being.

CONCLUSION

During the COVID-19 pandemic, physical activity levels may be affected. Good physical activity levels are important for the prevention and management of obesity and non-communicable diseases. PA also improves mental health and reduces the risks of severe symptoms if infected with COVID-19. Health promotion efforts to keep active should be tailored to different groups in the population during a pandemic to protect health and safety.

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REFERENCES

- Cheval, Boris, H. Sivaramakrishnan, S. Maltagliati, L. Fessler, C. Forestier, P. Sarrazin, et al. 2021. "Relationships between Changes in Self-Reported Physical Activity, Sedentary Behaviour, and Health during the Coronavirus (COVID-19) Pandemic in France and Switzerland." *Journal of Sports Sciences* 39(6): 699–704. <https://doi.org/10.1080/02640414.2020.1841396>.
- Faulkner, James, W. J. O'Brien, B. McGrane, D. Wadsworth, J. Batten, C. D. Askew, et al. 2021. "Physical Activity, Mental Health and Well-Being of Adults during Initial COVID-19 Containment Strategies: A Multi-Country Cross-Sectional Analysis." *Journal of Science and Medicine in Sport* 24(4): 320–326. <https://doi.org/10.1016/j.jsams.2020.11.016>.
- Goethals, Laurence, Nathalie Barth, Julien Guyot, David Hupin, Thomas Celarier, and Bassirou Bongue. 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. <https://doi.org/10.2196/19007>.
- López-Sánchez, Guillermo F., Rubén López-Bueno, Alejandro Gil-Salmerón, Roy Zauder, Marta Skalska, Joanna Jastrzębska, et al. 2021. "Comparison of Physical Activity Levels in Spanish Adults with Chronic Conditions before and during COVID-19 Quarantine." *European Journal of Public Health* 31(1): 161–166. <https://doi.org/10.1093/eurpub/ckaa159>.
- Petersen, Jennifer A., Caroline Naish, Dina Ghoneim, Jessica L. Cabaj, Patricia K. Doyle-Baker, and Gavin R. McCormack. 2021. "Impact of the COVID-19 Pandemic on Physical Activity and Sedentary Behaviour: A Qualitative Study in a Canadian City." *International Journal of Environmental Research and Public Health* 18(9): 4441. <https://doi.org/10.3390/ijerph18094441>.
- Sallis, Robert, Deborah R. Young, Stephen Y. Tartof, James F. Sallis, Jenny Sall, Qi Li, et al. 2021. "Physical Inactivity Is Associated with a Higher Risk for Severe COVID-19 Outcomes: A Study in 48,440 Adult Patients." *British Journal of Sports Medicine* 55(19): 1099–1105. <https://doi.org/10.1136/bjsports-2021-104080>.
- Schuch, Felipe B., Roberta A. Bulzing, Jan Meyer, Davy Vancampfort, Joseph Firth, Brendon Stubbs, et al. 2020. "Associations of Moderate to Vigorous Physical Activity and Sedentary Behavior with Depressive and Anxiety Symptoms in Self-Isolating People during the COVID-19 Pandemic: A Cross-Sectional Survey in Brazil." *Psychiatry Research* 292: 113339. <https://doi.org/10.1016/j.psychres.2020.113339>.
- Spence, John C., Ryan E. Rhodes, Anne McCurdy, Andrea Mangan, David Hopkins, and William K. Mummery. 2021. "Determinants of Physical Activity Among Adults in the United Kingdom During the COVID-19 Pandemic: The DUK-COVID Study." *British Journal of Health Psychology* 26(2): 588–605. <https://doi.org/10.1111/bjhp.12497>.
- Syed Shiekh, S. F., and S. Marathamuthu. 2021. "Behaviour and the Perception of Physical Activity during the Period of Movement Control Order (MCO) in Malaysia." *Malaysian Journal of Movement, Health & Exercise* 10(1): 7-11. <https://doi.org/10.4103/2231-9409.328221>.
- World Health Organization (WHO). "Physical Activity." November 23, 2023. <https://www.who.int/news-room/fact-sheets/detail/physical-activity>.