

## REVIEW

# *Psychological and social results of COVID-19 pandemic in relation to physical activity: a narrative review*

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## ABSTRACT

The study aims to investigate and evaluate the impact of physical activity on human health and psychology during the Covid-19 pandemic.

In the search for scientific literature related to this review the US National Library of Medicine (PubMed) used MEDLINE and SPORTDiscus data and the terms “covid-19”, “physical activity”, and “human psychology”, were used. The relevant literature has also taken its source from the research of relevant articles from reference lists derived from data studies.

Quarantine measures limited the lives of many all over the world. Being apart from family and friends, not being able to act freely and the vagueness of the future affected societies deeply. The importance of physical activity on mental and bodily wellbeing is undeniable. Therefore, home-based or low-risk outdoor physical activities are highly encouraged to survive the pandemic in the psychological and social sense. These activities consist of running up and downstairs, walking, doing push-ups and sit-ups, yoga, etc.

In conclusion, ever since the Covid-19 pandemic started, there has been a pandemic of psychological and social problems as well. It is the statement of this study that physical activity is a key factor that should be included in people's lives to manage the pandemic healthily as possible.

**Keywords:** physical activity, psychological wellness, covid-19, quarantine measures

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## INTRODUCTION

In December 2019, an outbreak of disease emerged in the Wuhan city of China. The disease SARS-CoV-2, which is commonly known as Covid-19, was soon declared a worldwide pandemic by the World Health

Organisation (WHO). As Covid-19 spread across a great number of countries, the severity of the disease came to light, and governments were forced to take extreme measures to show down the prevalence. Social distancing and

self-quarantining at home are the most common measures that were taken all around the world and they continue [1-4].

Quarantine is of the major precautions against Covid-19. Many people had to stay home, be apart from their loved ones, work from home and not go out unless it is necessary. As functional as it is against the disease itself, quarantine brings forth negativities as well. It is the subject and concern of many researchers that the quarantine period has psychological and social outcomes in a global sense. As isolation means restriction of freedom, people may get hysterical, feel under stress and feel as if their lives are out of their control. In addition, quarantine results in more than just self-isolation. For many people, quarantine means being apart from their loved ones, having financial problems, not being able to provide for their essential needs, etc. [5-7]. Regarding the world's history of pandemics and epidemics, studies point out that the Covid-19 pandemic triggers anxiety, insomnia, depression, solitude, anger, and even self-destruction [8-11].

## **PSYCHOLOGICAL AND SOCIAL RESULTS OF COVID-19**

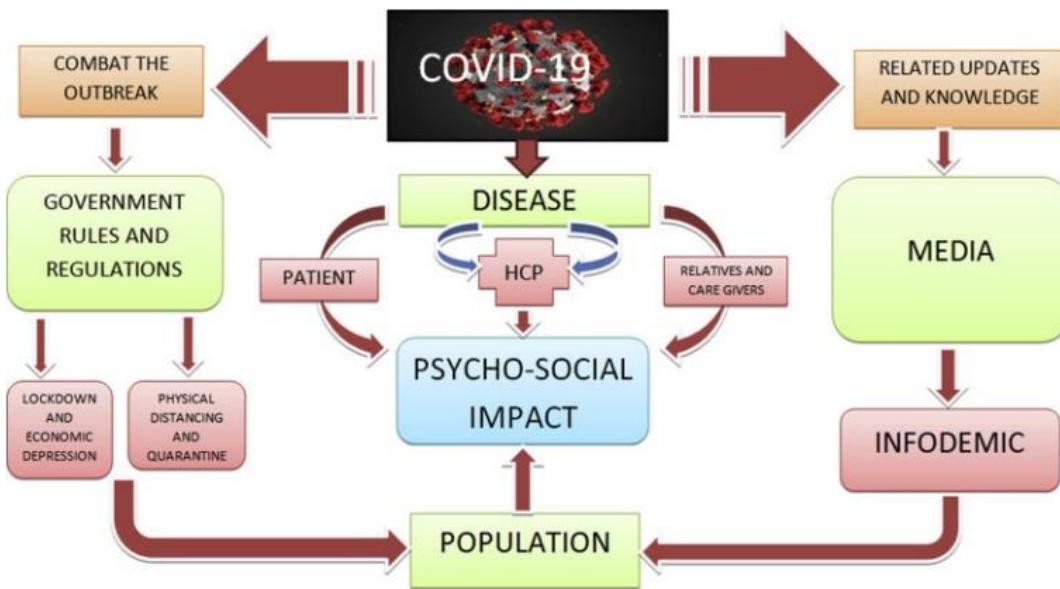
As the Covid-19 pandemic threatens our physical well-being, our bodies are not the only ones at risk. Ever since the pandemic emerged, signs of stress became quite common in society. As important as the physical consequences of Covid-19 disease, social and psychological consequences are considered

equally important by many researchers. It is indeed a subject to be studied since providing helpful methods to cope with these consequences may help improve the quality of life during the Covid-19 pandemic and any other pandemic that may happen in the future. People from all sections are exposed to the psychological and social impacts of the pandemic, however, some are more vulnerable than others. These sections tend to be at risk of anxiety, depression, and post-traumatic symptoms [12].

Covid-19 is not the first pandemic that societies have faced. During SARS, Ebola, and H1N1, similar psychological and social impacts were detected by researchers. The key point to be emphasized is that, during pandemics, these impacts are not only caused by the fear of being exposed to the virus<sup>8</sup>. Being apart from family and friends, not being able to act freely and the vagueness of the future are important factors that influence people's life. This influence is not to be underestimated since it may lead to serious results like depression, PTSD, and even suicide (Figure 1) [13-18].

## **PHYSICAL ACTIVITY**

One of the primary reasons for mortality is a sedentary lifestyle that lacks any kind of physical activity. Since the emergence of the Covid-19 outbreak, the extreme quarantine measures lead to physical inactivity due to the homestay. As people were discouraged from going out, they started spending their time sitting and sleeping.



**Figure 1.** Intricate psychosocial relationship between the disease, health care providers, government, and population [1].

Today, many researchers emphasize the importance of being physically active during the pandemic. While the quarantine measures decrease the prevalence of the virus among people, the precautions may lead to negative consequences such as physical inactivity, which is to be regarded as a serious public health problem. The results of physical inactivity can be both physical and psychological. Many studies argue that physical activity helps increase the immune system against viruses [19-21].

It is a fact that sleep is an important determinant of a person's psychological state. Sleep is often linked to physical activity. As previous data points out, adolescents who have sedentary lifestyles, sleep worse than those who exercise. Neurological problems such as epilepsy, migraine, Alzheimer's, etc. is also argued to be positively influenced by physical activity. When one participates in

physical activity, their brain functions are likely to show improvements [22,23].

Studies associated lack of physical activity during the Covid-19 pandemic and the psychological wellness of subjects. Ever since quarantine measures started, people no longer participated in activities such as dancing, traveling, or exercising as they did before the pandemic. It is a fact that physical activity participation has decreased significantly since the beginning of the pandemic. Therefore, home-based physical activities are highly encouraged. These activities consist of running up and downstairs, walking, doing push-ups and sit-ups, yoga, etc. [24].

It is a fact that the human body requires physical activity at least at a minimum level to maintain a healthy mind and body [25]. For instance, during the period of quarantine during the Covid-19 pandemic, authorities in

New Zealand suggested their people do outdoor exercises without jeopardizing their health in such areas as forests, beaches, etc. [26].

## MATERIAL AND METHODS

In the search for scientific literature related to this review the US National Library of Medicine (PubMed) used MEDLINE and SportDiscus data and the terms "covid-19", "physical activity", "human psychology", were used. The relevant literature has also taken its source from the research of relevant articles from reference lists derived from data studies.

## RESULTS - DISCUSSION

A study by Orgilés *et al.* stated that children and adolescents are more likely to suffer from anxiety during the pandemic. The research consisted of Italian and Spanish children whose ages are between 3 and 18. The study focused on the quarantine period and questioned how children's psychological being altered during this period. According to the results, 76.6% had a hard time focusing, 52% experienced boredom, and 39% showed signs of nervousness. Other symptoms are loneliness, restlessness, and concerns [27].

One study argued that university students experienced the negative psychological and social effects of the pandemic rather intensely. According to a study that was conducted in China, university

students suffered from excessive stress, anxiety, and depression [28].

Another section of the society that experienced negativities of the Covid-19 pandemic is healthcare workers. Because of their position, they are likely to experience stress, PTSD, exhaustion, depersonalization, and anxiety [29-32]. One study was conducted on healthcare workers who were in direct contact with patients. The results revealed that half of the subjects suffered from depression, 71.5% were distressed, 44.6% had anxiety and 34% had insomnia [30].

According to one research that focused on the H1N1 pandemic that took place in 2009, there is a meaningful link between psychological reactions and the disease itself. The study targeted families with kids. As a result, the researchers argued that against the disease H1N1, children felt scared. There was a significant link between the feeling of fear and H1N1 [33].

In another study that was conducted in several cities in China during the Covid-19 pandemic, subjects were asked to evaluate how the disease affected their lives in psychological terms. While 54% of the participants evaluated the severances as moderate and severe. %29 of the subjects indicated anxiety, %17 reported depression and more than ¾ of the participants stated that they were concerned about their loved ones getting the disease [34].

According to recent data, Covid-19 is reported to decrease the quality of sleep. It is argued by researchers that as a person experiences psychological negativity, their

sleeping pattern and sleep quality are likely to worsen [35, 36].

## CONCLUSION

In conclusion, ever since the Covid-19 pandemic started, there has been a pandemic of psychological and social problems as well. Quarantine measures limited the lives of many all over the world. Being apart from family and friends, not being able to act freely and the vagueness of the future affected societies deeply. The importance of physical activity on mental and bodily wellbeing is undeniable. Therefore, home-based or low-risk outdoor physical activities are highly encouraged to

survive the pandemic in the psychological and social sense. These activities consist of running up and downstairs, walking, doing push-ups and sit-ups, yoga, etc. For this reason, it is the statement of this study that physical activity is a key factor that should be included in people's lives to manage the pandemic healthily as possible.

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## ΒΙΒΛΙΟΓΡΑΦΙΑ

1. Dubey S, Biswas P, Ghosh R, Chatterjee S, Dubey MJ, Chatterjee S, et al. Psychosocial impact of COVID-19. *Diabetes Metab Syndr*. 2020;14(5):779-788.
2. Lai CC, Shih TP, Ko WC, Tang HJ, Hsueh PR. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and coronavirus disease-2019 (COVID-19): The epidemic and the challenges. *Int J Antimicrob Agents*. 2020;55(3):105924.
3. Pulla P. Covid-19: India imposes lockdown for 21 days and cases rise. *BMJ*. 2020;368:m1251.
4. Rubin GJ, Wessely S. The psychological effects of quarantining a city. *BMJ*. 2020;368:m313.
5. Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, Greenberg N, et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *Lancet*. 2020;395(10227):912-920.
6. Hawryluck L, Gold WL, Robinson S, Pogorski S, Galea S, Styra R. SARS control and psychological effects of quarantine, Toronto, Canada. *Emerg Infect Dis*. 2004;10(7):1206-12.
7. Maunder R, Hunter J, Vincent L, Bennett J, Peladeau N, Leszcz M, et al. The immediate psychological and occupational impact of the 2003 SARS outbreak in a teaching hospital. *CMAJ*. 2003;168(10):1245-51.
8. Barisch D, Koenig KL, Shih FY. Is There a Case for Quarantine? Perspectives from SARS to Ebola. *Disaster Med Public Health Prep*. 2015;9(5):547-53.
9. Jeong H, Yim HW, Song YJ, Ki M, Min JA, Cho J, et al. Mental health status of people isolated due to Middle East Respiratory Syndrome. *Epidemiol Health*. 2016;38:e2016048.

10. Liu X, Kakade M, Fuller CJ, Fan B, Fang Y, Kong J, et al. Depression after exposure to stressful events: lessons learned from the severe acute respiratory syndrome epidemic. *Compr Psychiatry.* 2012;53(1):15-23.
11. Robertson E, Hershenfield K, Grace SL, Stewart DE. The psychosocial effects of being quarantined following exposure to SARS: a qualitative study of Toronto health care workers. *Can J Psychiatry.* 2004;49(6):403-7.
12. Saladino V, Algeri D, Auriemma V. The Psychological and Social Impact of Covid-19: New Perspectives of Well-Being. *Front Psychol.* 2020;11:577684.
13. Cao W, Fang Z, Hou G, Han M, Xu X, Dong J, et al. The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry Res.* 2020;287:112934.
14. Day T, Park A, Madras N, Gumel A, Wu J. When is quarantine a useful control strategy for emerging infectious diseases? *Am J Epidemiol.* 2006;163(5):479-85.
15. Kawohl W, Nordt C. COVID-19, unemployment, and suicide. *Lancet Psychiatry.* 2020;7(5):389-390.
16. Li LZ, Wang S. Prevalence and predictors of general psychiatric disorders and loneliness during COVID-19 in the United Kingdom. *Psychiatry Res.* 2020;291:113267.
17. Mazza C, Ricci E, Biondi S, Colasanti M, Ferracuti S, Napoli C, et al. A Nationwide Survey of Psychological Distress among Italian People during the COVID-19 Pandemic: Immediate Psychological Responses and Associated Factors. *Int J Environ Res Public Health.* 2020;17(9):3165.
18. Weir K. Grief and COVID-19: mourning our bygone lives. American Psychological Association. 2020.
19. Chen P, Mao L, Nassis GP, Harmer P, Ainsworth BE, Li F. Coronavirus disease (COVID-19): The need to maintain regular physical activity while taking precautions. *J Sport Health Sci.* 2020;9(2):103-104.
20. Martin SA, Pence BD, Woods JA. Exercise and respiratory tract viral infections. *Exerc Sport Sci Rev.* 2009;37(4):157-64.
21. Owen N, Sparling PB, Healy GN, Dunstan DW, Matthews CE. Sedentary behavior: emerging evidence for a new health risk. *Mayo Clin Proc.* 2010;85(12):1138-41.
22. Park S. Associations of physical activity with sleep satisfaction, perceived stress, and problematic Internet use in Korean adolescents. *BMC Public Health.* 2014;14:1143.
23. Stroud N, Mazwi TM, Case LD, Brown RD Jr, Brott TG, Worrall BB, et al; Ischemic Stroke Genetics Study Investigators. Prestroke physical activity and early functional status after stroke. *J Neurol Neurosurg Psychiatry.* 2009;80(9):1019-22.
24. Dai J, Menhas R. Sustainable Development Goals, Sports and Physical Activity: The Localization of Health-Related Sustainable Development Goals Through Sports in China: A Narrative Review. *Risk Manag Healthc Policy.* 2020;13:1419-1430.

25. Leonard WR. Size counts: evolutionary perspectives on physical activity and body size from early hominids to modern humans. *J Phys Act Health.* 2010;7 Suppl 3:S284-98.
26. Jenkins M, Houge Mackenzie S, Hodge K, Hargreaves EA, Calverley JR, Lee C. Physical Activity and Psychological Well-Being During the COVID-19 Lockdown: Relationships With Motivational Quality and Nature Contexts. *Front Sports Act Living.* 2021;3:637576.
27. Orgilés M, Morales A, Delvecchio E, Mazzeschi C, Espada JP. Immediate Psychological Effects of the COVID-19 Quarantine in Youth From Italy and Spain. *Front Psychol.* 2020;11:579038.
28. Li SW, Wang Y, Yang YY, Lei XM, Yang YF. Analysis of influencing factors of anxiety and emotional disorders in children and adolescents during home isolation during the epidemic of novel coronavirus pneumonia. *Chinese Journal of Child Health.* 2020;28(3):1-9.
29. Garcia-Castrillo L, Petrino R, Leach R, Dodt C, Behringer W, Khoury A, et al. European Society For Emergency Medicine position paper on emergency medical systems' response to COVID-19. *Eur J Emerg Med.* 2020;27(3):174-177.
30. Lai J, Ma S, Wang Y, Cai Z, Hu J, Wei N, et al. Factors Associated With Mental Health Outcomes Among Health Care Workers Exposed to Coronavirus Disease 2019. *JAMA Netw Open.* 2020;3(3):e203976.
31. Mache S, Vitzthum K, Klapp BF, Groneberg DA. Stress, health, and satisfaction of Australian and German doctors--a comparative study. *World Hosp Health Serv.* 2012;48(1):21-7.
32. Øyane NM, Pallesen S, Moen BE, Akerstedt T, Bjorvatn B. Associations between night work and anxiety, depression, insomnia, sleepiness and fatigue in a sample of Norwegian nurses. *PLoS One.* 2013;8(8):e70228.
33. Remmerswaal D, Muris P. Children's fear reactions to the 2009 Swine Flu pandemic: the role of threat information as provided by parents. *J Anxiety Disord.* 2011;25(3):444-9.
34. Wang C, Pan R, Wan X, Tan Y, Xu L, Ho CS, et al. Immediate Psychological Responses and Associated Factors during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic among the General Population in China. *Int J Environ Res Public Health.* 2020;17(5):1729.
35. Sang X, Menhas R, Saqib ZA, Mahmood S, Weng Y, Khurshid S, et al. The Psychological Impacts of COVID-19 Home Confinement and Physical Activity: A Structural Equation Model Analysis. *Front Psychol.* 2021;11:614770.
36. Xiao H, Zhang Y, Kong D, Li S, Yang N. The Effects of Social Support on Sleep Quality of Medical Staff Treating Patients with Coronavirus Disease 2019 (COVID-19) in January and February 2020 in China. *Med Sci Monit.* 2020;26:e923549.