

Short Communication

Wearing of face masks while jogging during the COVID-19 pandemic: will my oxygenation decrease?

Frederic Ivan Ting^{1,2*}, Justine Villanueva¹

¹Department of Internal Medicine, Dr. Pablo O. Torre Memorial Hospital, Bacolod, Negros Occidental, Philippines

²Riverside Bacolod Cancer Care Center, Bacolod, Negros Occidental, Philippines

Received: 10 July 2020

Revised: 17 July 2020

Accepted: 18 July 2020

*Correspondence:

Dr. Frederic Ivan Ting,

E-mail: fredtingmd@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Since the start of the COVID-19 pandemic, several guidelines recommend the wearing of face masks when outdoors. However, it is still widely debated if that recommendation is safe while exercising outdoors. Our paper shows that the wearing of face masks while jogging outdoors does not significantly affect the level of the person's oxygen saturation.

Keywords: Face masks, Jogging, COVID-19

INTRODUCTION

The COVID-19 pandemic has impacted the daily lives of people from all walks of life and has claimed the lives of many. It has forced people to change their routines and develop a "new normal" to adapt to what is happening. As the constant changes brought by this crisis generate stress throughout the population, the World Health Organization (WHO) and the US Center for Disease Control and Prevention (CDC) remind us to take care of our emotional health by staying connected with others and maintaining strong and healthy relationships with our family and support system and by taking care of our body among others through eating well-balanced meals, having enough sleep, and by exercising regularly.^{1,2}

With restrictions loosening up around the world, people are starting to go outdoors to work, socialize, and exercise. As we learn more about the spread of COVID-19, it remains clear that asymptomatic people can spread the virus.³⁻⁵ Although physical distancing and hand washing are unanimously accepted by those who exercise

outdoors to mitigate the spread of the virus, what remains unsettled is the wearing of face mask. Despite the release of the CDC guidelines that recommend the wearing of masks in "public settings and when around people who don't live in your household, especially when other social distancing measures are difficult to maintain," it remains unsettled whether it is safe to wear masks when jogging outdoors.

While a study has shown that surgical face masks could prevent transmission of coronaviruses from individuals, some experts argue that it may limit the intake of air which can produce discomfort.^{6,7} Some runners also fear that wearing face masks while running may decrease their amount of oxygenation in the body to hazardous levels.

METHODS

We examined data voluntarily given by 10 healthy individuals in a longitudinal analysis. The study volunteers did not have any comorbidities and were aged 28-42 years old who were regular joggers in Pasig and

Bacolod city in June of 2020. These individuals regularly wear a surgical face mask while jogging at their own pace for 30 minutes. They measured their oxygen saturation using a pulse oximeter at 4 intervals: before jogging, and at the 10th, 20th and 30th minute (end) of their jog. Statistical analysis was done by ANOVA.

RESULTS

The mean oxygen saturation results were 97.8%, 97.7%, 97.1%, 97.9% respectively (Table 1). Statistical analysis showed that the mean difference between groups was noted to be statistically insignificant at 0.9667% (p=0.0917).

Table 1: Oxygen saturation results of 10 individuals using pulse oximeter at different intervals while jogging.

	Mean oxygen saturation (%)	Standard deviation	Mean difference between groups (%)	P value
Pre-jogging	97.8	0.7888	0.9667	0.0917
Mid-jogging (10th minute)	97.7	0.483		
Mid-jogging (20th minute)	97.1	0.7379		
End of jogging (30th minute)	97.9	0.5164		

DISCUSSION

Recently, 239 researchers around the world appealed to the international body to recognize the potential for airborne spread of COVID-19.⁸ Furthermore, a recent study also showed that a new mutation (D614G) increases the infectivity of the virus.⁹ These new data make the issue of wearing a mask when outdoors even more relevant.

While a bigger and formal study is definitely recommended that includes measuring the level of dyspnea for a stronger conclusion, our evidence suggests that wearing a surgical face mask during jogging does not result to a statistically significant decrease in oxygen saturation.

In this challenging time when taking every precaution to avoid contracting or spreading the COVID-19 infection is prudent, should you fear that oxygenation in your body will decrease if you wear a face mask while jogging? Probably not.

ACKNOWLEDGEMENTS

The authors would like to thank Dr. Karen Mondragon and Dr. Adovich Rivera for their statistical expertise.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

REFERENCES

1. World Health Organization: Mental health and psychosocial considerations during the COVID-19 outbreak. Available at: <https://www.who.int/docs/default-source/coronaviruse/mental-health-considerations.pdf?sfvrsn=6d3578af2>. Accessed on 5 July 2020.

2. CDC Website: Taking Care of Your Emotional Health. Available at: <https://emergency.cdc.gov/coping/selfcare.asp>. Accessed on 5 July 2020.
3. Hu Z, Song C, Xu C, Jin G, Chen Y, Xu X, et al. Clinical characteristics of 24 asymptomatic infections with COVID-19 screened among close contacts in Nanjing, China. *Sci China Life Sci*. 2020;63(5):706-11.
4. Lauer SA, Grantz KH, Bi Q, Jones FK, Zheng Q, Meredith HR, et al. The Incubation Period of Coronavirus Disease 2019 (COVID-19) From Publicly Reported Confirmed Cases: Estimation and Application. *Ann Intern Med*. 2020;172(9):577-82.
5. Philippine Department of Health: Asymptomatic COVID-19 cases are "Super Virus Spreaders." Available at: <https://www.doh.gov.ph/node/21763>. Accessed on 5 July 2020.
6. Leung NHL, Chu DKW, Shiu EYC, Chan KH, McDevitt JJ, Hau BJP, et al. Respiratory virus shedding in exhaled breath and efficacy of face masks. *Nat Med*. 2020;26(5):676-80.
7. Reynolds G. Exercising Outdoors with A Face Mask. *The New York Times* April 10, 2020. Available at: <https://www.nytimes.com/2020/04/10/well/move/coronavirus-exercise-outdoors-mask-running-cycling.html>. Accessed on 5 July 2020.
8. Morawska L, Milton D. It is Time to Address Airborne Transmission of COVID-19. *Clinical Infectious Diseases*. ciaa939, 2020.
9. Korber B, Fischer WM, Gnanakaran S, Yoon H, Theiler J, Abfalterer W, et al. Tracking changes in SARS-CoV-2 Spike: evidence that D614G increases infectivity of the COVID-19 virus. *Cell*. 2020.

Cite this article as: Ting FI, Villanueva J. Wearing of face masks while jogging during the COVID-19 pandemic: will my oxygenation decrease? *Int J Community Med Public Health* 2020;7:3249-50.