

The Coronavirus Disease 2019 and Myopia

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The coronavirus disease 2019 (COVID-19) pandemic has globally stricken millions of people [1]. As the global health burden of COVID-19 continues to boost, it is also showing to impose enormous costs on people, communities, health care systems, and economies [1].

The spread of COVID-19 is especially of remarkable concern in those countries with large and densely populated cities with broad poverty and high migration rates, along with a high prevalence of chronic health conditions that are usually inadequately controlled [2]. The outbreak has significantly hit low-income countries as hundreds of millions of individuals in low-income countries found themselves out of work which has led to loss in income across diverse sources [3].

Even though older age and pre-existing health conditions especially chronic health disorders have been reported to be main risk factors of COVID-19 mortality, several investigations have found that morbidity and mortality from this disease are also linked to socioeconomic situations, including income, educational accomplishment, employment in service or retail industry, regional poverty level, unemployment, household crowding, and race/ethnicity [2,4].

The COVID-19 pandemic has brought about the implementation of an assortment of measures and restrictions at a global level from quarantine to public health guidance (e.g., hand washing, respiratory etiquette, and social distancing) [5]. Governments have tried to restrict the spread of the virus through a range of policy measures that have limited travel, imposed quarantines and

lockdowns, and closed businesses and schools [3]. In addition to the economic weight of COVID-19-related morbidity and mortality, there have been other serious economic consequences, with the global economy projected to shrink [3].

There are major concerns for potential collateral damage as a result of lockdown measures [6]. Although communal lockdowns are effective in containing the spread of the virus but they are followed by other costs for public health [6]. The temporary closure of businesses, restricted tourism, cancelling of public events, and so forth has led to an increase in unemployment levels [6].

In addition, several reports have demonstrated worsened mental health problems throughout the pandemic [2]. Unfortunately, a rise in suicide rates and an increased prevalence of mental illnesses, predominantly among the socially disadvantaged people, are predicted [7,8]. This has produced a large body of documents on this pandemic's initial influence on mental health showing an increase in population level anxiety, depression, psychological distress, suicidal ideation, and loneliness [6].

Moreover, the outbreak and spread of the COVID-19 pandemic are significantly affecting people's lives by changing physical and learning behaviors [9,10]. This has added up to an already global vision crisis, which is called myopia [1,9-12]. Myopia is a serious global public health and socioeconomic crisis so that more than half of the world population is anticipated to be myopic by 2050 [13,14].

Since emerging infectious diseases (EIDs) such as COVID-19 are enforcing people to be quarantined indoor [1,12,15], this ac-

cordingly results in home quarantine during the pandemic thereby increasing time spent on near work and increased screen time at home [1,12,15].

As insufficient time spent outdoor [9,14-17] and increased duration and intensity of near work activities [9,14,15,18,19] have been demonstrated as main environmental risk factors for myopia progression, home quarantine will lead to the development of the myopic crisis further [1,9,14]. This is predominantly crucial for young children as their refractive errors are more sensitive to environmental changes than older ages [1,9,14,15]. As a result, the home quarantine will affect more on young children [1,9,14].

Therefore, it is very important to reflect watchfully on refractive error changes especially in young children while the COVID-19-related restrictions are imposed. This is to highlight another global health crisis, which may be overlooked if it is not properly managed during the COVID-19 pandemic. Consequently, the author is trying to offer help for health-care professionals, key players, and policymakers to arrive at appropriately mindful decisions to better manage health crises while they carefully think of other crises.

Conflict of Interest

The author declares no conflict of interest.

Bibliography

1. Nouraeinejad A. "The influence of coronavirus disease 2019 on myopia progression". *European Eye Research* 1.2 (2021): 113-114.
2. Singh K., et al. "Health, psychosocial, and economic impacts of the COVID-19 pandemic on people with chronic conditions in India: a mixed methods study". *BMC Public Health* 21 (2021): 685.
3. Josephson A., et al. "Socioeconomic impacts of COVID-19 in low-income countries". *Nature Human Behaviour* 5 (2021): 557-565.
4. Yoshikawa Y and Kawachi I. "Association of Socioeconomic Characteristics With Disparities in COVID-19 Outcomes in Japan". *JAMA Network Open* 4.7 (2021): e2117060.
5. Forte T., et al. "The COVID-19 Pandemic Strain: Teleworking and Health Behavior Changes in the Portuguese Context". *Healthcare* 9.9 (2021): 1151.
6. Oberndorfer M., et al. "Health-related and socio-economic burden of the COVID-19 pandemic in Vienna". *Health and Social Care in the Community* 5 (2021): 10.
7. Kawohl W and Nordt C. "COVID-19, unemployment, and suicide". *The Lancet Psychiatry* 7.5 (2020): 389-390.
8. Reger MA., et al. "Suicide mortality and coronavirus disease 2019—A perfect storm?". *JAMA Psychiatry* 77.11 (2020): 1093.
9. Nouraeinejad A. "A warning message from 2020 to 2050: More than half of the world population will be myopic by 2050". London: Moorfields Eye Hospital (2020).
10. Nouraeinejad A. "The Myopia Impact". *Acta Scientific Ophthalmology* 4.9 (2021): 35-36.
11. Saw S-M., et al. "Prevention and Management of Myopia and Myopic Pathology". *Investigative Ophthalmology and Visual Science* 60 (2019): 488-499.
12. Liu J., et al. "Student Health Implications of School Closures during the COVID-19 Pandemic: New Evidence on the Association of e-Learning, Outdoor Exercise, and Myopia". *Healthcare (Basel)* 9.5 (2021): 500.
13. Holden BA., et al. "Global Prevalence of Myopia and High Myopia and Temporal Trends from 2000 through 2050". *Ophthalmology* 123.5 (2016): 1036-1042.
14. Nouraeinejad A. "Differential Diagnosis in Optometry and Ophthalmology". Second Edition. Iran: Noruzi Publication (2017).
15. Wang J., et al. "Progression of Myopia in School-Aged Children After COVID-19 Home Confinement". *JAMA Ophthalmology* 139.3 (2021): 293-300.
16. He M., et al. "Effect of time spent outdoors at school on the development of myopia among children in China: a randomized clinical trial". *JAMA* 314.11 (2015): 1142-1148.
17. Lingham G., et al. "How does spending time outdoors protect against myopia? a review". *British Journal of Ophthalmology* 104.5 (2020): 593-599.
18. Zadnik K., et al. "Collaborative Longitudinal Evaluation of Ethnicity and Refractive Error (CLEERE) Study Group. Prediction of Juvenile-Onset Myopia". *JAMA Ophthalmology* 133.6 (2015): 683-689.

19. Wen L., *et al.* "Objectively measured near work, outdoor exposure and myopia in children". *British Journal of Ophthalmology* 104.11 (2020): 1542-1547.

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