Decreased Life Expectancy among Older People during the COVID-19 Pandemic: A Public Health Issue

Nazila Javadi-Pashaki 1,2, Mohammad Javad Ghazanfari 3, Sahar Miri 4, Samad Karkhah 1,5,6*

1. Social Determinants of Health Research Center (SDHRC), Guilan University of Medical Sciences, Rasht, Iran
2. Department of Nursing, Cardiovascular Diseases Research Center, School of Nursing and Midwifery, Guilan University of Medical Sciences, Rasht, Iran
3. Department of Medical-Surgical Nursing, School of Nursing and Midwifery, Kashan University of Medical Sciences, Kashan, Iran
4. Department of Corrective Exercise and Sport Injury, Faculty of Sport Sciences, University of Guilan, Rasht, Iran
5. Department of Medical-Surgical Nursing, School of Nursing and Midwifery, Guilan University of Medical Sciences, Rasht, Iran
6. Burn and Regenerative Medicine Research Center, Guilan University of Medical Sciences, Rasht, Iran.

Abstract
Decreased life expectancy is considered as a key indicator of human development. Obviously, the increase in mortality, especially in vulnerable groups such as older people, leads to a major disruption in the human development of countries. On the other hand, the destructive social and economic effects of COVID-19 on human life further reduce their life expectancy. Social and economic effects are associated with declining incomes, poverty, and consequently reduced life expectancy, especially among older people, who are the poorer sections of society in terms of income. Therefore, it is suggested that policymakers and health managers make appropriate decisions such as timely vaccination of older people, future treatment measures, and appropriate behavioral changes to control the disease and improve life expectancy among older people during the COVID-19 pandemic.

Keywords: Life Expectancy [MeSH], Aged [MeSH], COVID-19 [MeSH], Public Health [MeSH]
Statement

Since December 2019, COVID-19 has led to unprecedented morbidity and mortality worldwide. Previous evidence has shown that the disease can affect various organ systems of the body via long-term and subacute effects (1-5). According to the World Health Organization, a total of 265,194,191 confirmed cases of COVID-19 had been identified worldwide by December 6, 2021, out of which 5,254,116 died (6). On the other hand, there is strong evidence that aging is associated with a higher mortality rate among COVID-19 patients (7-9). A systematic review and meta-analysis showed that age over 65 is a strong predictor of mortality among COVID-19 patients (10). Therefore, it is very important to pay attention to older people as a high-risk group against the incidence and mortality of this disease.

Meanwhile, life expectancy is one of the common criteria of community health that is usually measured from birth. On the other hand, high mortality due to COVID-19 can significantly affect life expectancy. Based on previous experience, epidemics such as the flu (1918) and Ebola (2014) reduced life expectancy by 11.8 years and 1.6 to 5.6 years in the United States and Liberia, respectively. Thus, the COVID-19 pandemic can lead to reduced life expectancy, especially in severely affected countries.

Conclusion

In sum, decreased life expectancy is considered as a key indicator of human development. Obviously, the increase in mortality, especially in vulnerable groups such as older people, leads to a major disruption in the human development of countries. On the other hand, the destructive social and economic effects of COVID-19 on human life further reduce their life expectancy (14). In Indonesia, these effects were associated with declining incomes, poverty, and consequently reduced life expectancy, especially among older people, who are the poorer sections of society in terms of income (15). On the other hand, high levels of poverty in society can be associated with low levels of health in society. Therefore, appropriate behavioral changes to control COVID-19 can help improve the social and economic status and life expectancy of older people during the COVID-19 pandemic (16).

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Declaration of Conflicting Interests

The Author(s) declare(s) that there is no conflict of interest.

Highlights

- Based on previous experience, epidemics such as the flu (1918) and Ebola (2014) reduced life expectancy by 11.8 years and 1.6 to 5.6 years in the United States and Liberia, respectively. Thus, the COVID-19 pandemic can lead to reduced life expectancy, especially in severely affected countries.

Latin America and the Caribbean, 2-7 years in Southwest Asia, and 1-4 years in South Africa. However, if the prevalence of COVID-19 remains less than 1 or 2%, it will not have a significant impact on life expectancy (13). On the other hand, the destructive social and economic effects of COVID-19 on human life further reduce their life expectancy (14). In Indonesia, these effects were associated with declining incomes, poverty, and consequently reduced life expectancy, especially among older people, who are the poorer sections of society in terms of income (15). On the other hand, high levels of poverty in society can be associated with low levels of health in society. Therefore, appropriate behavioral changes to control COVID-19 can help improve the social and economic status and life expectancy of older people during the COVID-19 pandemic (16).
References

1. Emami Zeydi A, Ghazanfari MJ, Shaikhi Sanandaj F, Panahi R, Mortazavi H, Karimifar K, et al. Coronavirus Disease 2019 (COVID-19): A Literature Review from a Nursing Perspective. BioMedicine. 2021;11(3):5-14. [view at publisher] [DOI] [Google Scholar]

2. Nalbandian A, Sehgal K, Gupta A, Madhavan MV, McGroder C, Stevens JS, et al. Post-acute COVID-19 syndrome. Nat Med. 2021;27:601-615. [view at publisher] [DOI] [PMID] [Google Scholar]

3. Matsuishi Y, Mathis BJ, Shimojo N, Subrina J, Okubo N, Inoue Y. Severe COVID-19 Infection Associated with Endothelial Dysfunction Induces Multiple Organ Dysfunction: A Review of Therapeutic Interventions. Biomedicines. 2021;9(3):279. [view at publisher] [DOI] [PMID] [PMCID] [Google Scholar]

4. Karkhah S, Ghazanfari MJ, Shamshirian A, Panahi L, Molai M, Emami Zeydi A. Clinical features of patients with probable 2019 novel coronavirus infected pneumonia in Rasht, Iran: A retrospective case series. Open Access Maced J Med Sci. 2020;8(T1):16-22. [view at publisher] [DOI] [Google Scholar]

5. Monfared A, Moghadamnia MT, Karkhah S, Maroufizadeh S, Asadian Rad M, Kheirkhah J, et al. A Survey for Predictors of Mortality among COVID-19 Patients: A Retrospective Study from Iran. Jorjani Biomed J. 2021;9(4):13-21. [view at publisher] [Google Scholar]

6. Organization WHO. Internet 2021 [cited 2021 December 6]. Available from: https://covid19.who.int/

7. Blagosklonny MV. From causes of aging to death from COVID-19. Aging (Albany NY). 2020;12(11):10004-10021. [DOI] [PMID] [PMCID] [Google Scholar]

8. Hendren NS, de Lemos JA, Ayers C, Das SR, Rao A, Carter S, et al. Association of body mass index and age with morbidity and mortality in patients hospitalized with COVID-19: results from the American Heart Association COVID-19 Cardiovascular Disease Registry. Circulation. 2021;143(2):135-144. [view at publisher] [DOI] [PMID] [Google Scholar]

9. Biswas M, Rahaman S, Biswas TK, Haque Z, Ibrahim B. Association of sex, age, and comorbidities with mortality in COVID-19 patients: a systematic review and meta-analysis. Intervirology. 2021;64(1):36-47. [view at publisher] [DOI] [PMID] [PMCID] [Google Scholar]

10. Paroian M, Yaghoubi S, Seraji A, Javanbakht MH, Sarraf P, Djalali M. Risk factors for mortality in patients with Coronavirus disease 2019 (COVID-19) infection: a systematic review and meta-analysis of observational studies. Aging Male. 2021;25(5):1416-1424. [view at publisher] [DOI] [PMID] [Google Scholar]

11. Noymer A, Garenne M. The 1918 influenza epidemic’s effects on sex differentials in mortality in the United States. Popul Dev Rev. 2000;26(3):565-581. [view at publisher] [DOI] [PMID] [PMCID] [Google Scholar]

12. Helleringer S, Noymer A. Assessing the direct effects of the Ebola outbreak on life expectancy in Liberia, Sierra Leone and Guinea. PLoS Curr. 2015;7. [view at publisher] [Google Scholar]

13. Marois G, Muttarak R, Scherbov S. Assessing the potential impact of COVID-19 on life expectancy. PloS One. 2020;15(9):e0238678. [view at publisher] [DOI] [PMID] [PMCID] [Google Scholar]

14. Ceylan RF, Ozkan B, Mulazimogullari E. Historical evidence for economic effects of COVID-19. Eur J Health Econ. 2020;21:817-823. [DOI] [PMID] [PMCID] [Google Scholar]

15. Gibson J, Olivia S. Direct and Indirect Effects of Covid-19 On Life Expectancy and Poverty in Indonesia. Bull Indones Econ Stud. 2020;56(3):325-344. [view at publisher] [DOI] [Google Scholar]

16. Rollston R, Galea S. COVID-19 and the social determinants of health. Am J Health Promot. 2020;34(6):687-689. [view at publisher] [DOI] [PMID] [Google Scholar]

How to cite:

Javadi-Pashaki N, Ghazanfari M.J, Miri S, Karkhah S. Decreased Life Expectancy among Older People during the COVID-19 Pandemic: A Public Health Issue; Jorjani Biomedicine Journal. 2021; 9(4):62-64.