

# Letter to the Editor

## Leading cause of death in comparison to COVID-19 in Saudi Arabia

Dear Editor,

COVID-19 has reached a calamitous scale globally<sup>1</sup>; increasing the death tolls around the world, claiming over 2 million lives thus far<sup>2</sup>. The Saudi Arabian government has been trying to combat the spread of COVID-19 since its beginning, where it has implemented different strategies to minimize the detrimental effects COVID-19 is capable of<sup>3</sup>. Despite all the cautionary action taken by the government of Saudi Arabia, for example, suspension of Umrah (which is a religious ritual undertaken by Muslims in Makkah any time of the year)<sup>4</sup> and lockdown, the number of confirmed cases still escalated<sup>4,5</sup>. Currently, COVID-19 has affected around 300 thousand citizens and has taken around 2600 lives thus far<sup>6</sup>. In order to highlight the effects of the pandemic, we can compare COVID-19 mortality rates with the leading causes of death that, under normal circumstances, would pose the biggest threat to various age groups. Figure 1 summarizes the leading causes of death in Saudi Arabia (SA) over the years and their changes from 2009 to 2019.

According to the CDC, the most common cause of death in SA is ischemic heart disease, followed by road injuries, stroke, chronic kidney disease, lower respiratory tract infections, Alzheimer, conflict and terror, cirrhosis, neonatal disorders and diabetes mellitus respectively<sup>7,8,9</sup>. As shown in Figure 1, the most common cause of death is ischemic heart disease which increased by 23.3%, followed by road injuries which increased by 32.8% and finally COVID-19 (comparing the data of the last 10 months to now, the death rate has increased 1.34 %) <sup>7,9</sup>. Given all the necessary measures taken by the government, the numbers of patients who died of COVID-19 remain on the lower side when compared to other causes of death, such as other respiratory tract infections for example, which kill roughly around 3500 citizens per year<sup>9</sup>. Governmental efforts have decreased the death rate in congenital defects by -30.4% and neonatal disorders -61.1% in comparison to 2009 data (Figure 1)<sup>7,9</sup>.

Other causes of death, such as cancer, respiratory disease, liver disease, kidney disease and road traffic accidents all rank higher in taking lives when compared to COVID-19. On the other hand, COVID-19 has become the second leading cause of death for persons aged 85 years or more and the third leading cause of death for people aged 45-84 years in the United States of America<sup>10</sup>. Luckily, it seems that all the measures taken by the government and Ministry of Health in Saudi Arabia have proven to be effective against COVID-19, even though the number of cases was still on the higher side, COVID-19 is yet to be one of the leading causes of death; also, with citizens abiding to the precautionary measures and the vaccines being offered to the public based on availability, giving the priority to the vulnerable groups like the elderly and physicians on the front lines, cases will hopefully decrease and the curve will flatten once and for all.

### Conflict of interest

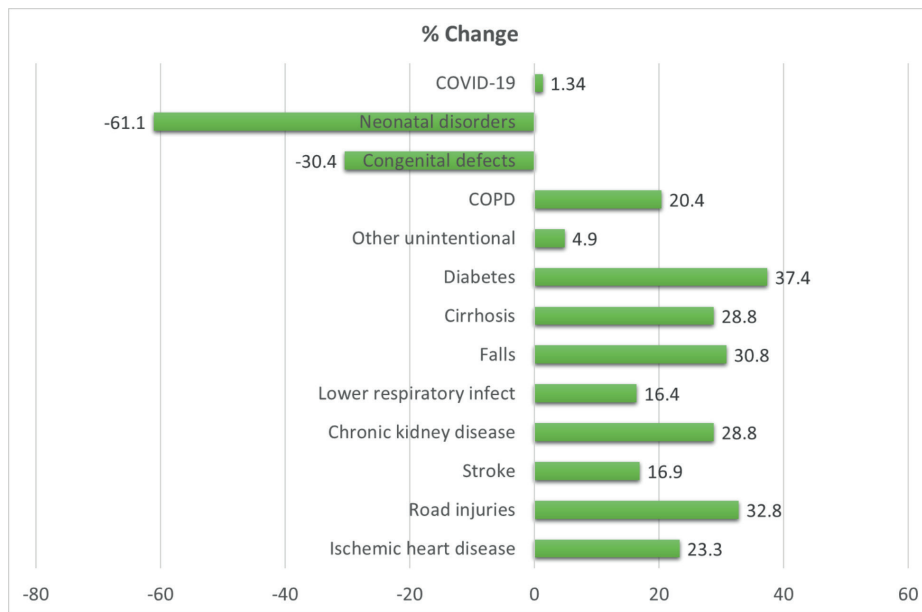
The authors declare no conflicts of interest.

### ORCID

<https://orcid.org/0000-0001-6286-6895>.

### References

- 1) Chakraborty I, Maity P. COVID-19 outbreak: migration, effects on society, global environment and prevention. *Sci Total Environ* 2020; 728: 138882.



**Figure 1.** The leading causes of death in Saudi Arabia over the changes from 2009 to 2019<sup>7,9</sup>.

- 2) COVID-19 [Internet]. Available from: <https://news.google.com/covid19/map?hl=en-US&mid=%2Fm%2F02j71&gl=US&ceid=US%3Aen>.
- 3) Algaissi AA, Alharbi NK, Hassanain M, Hashem AM. Preparedness and response to COVID-19 in Saudi Arabia: building on MERS experience. *J Infect Public Health* 2020; 13: 834-838.
- 4) Obied DA, Alhamlan FS, Al-Qahtani AA, Al-Ahdal MN. Containment of COVID-19: the unprecedented response of Saudi Arabia. *J Infect Dev Ctries* 2020; 14: 699-706.
- 5) Alyami MH, Naser AY, Orabi MAA, Alwafi H, Alyami HS. Epidemiology of COVID-19 in the Kingdom of Saudi Arabia: an ecological study. *Front Public Health* 2020; 8: 506.
- 6) COVID-19 [Internet]. Available from: <https://covid19.moh.gov.sa/>.
- 7) The Institute for Health Metrics and Evaluation (IHME) [Internet]. Available from: <http://www.healthdata.org/saudi-arabia>.
- 8) CDC Global Health - Saudi Arabia [Internet]. Available from: [https://www.cdc.gov/globalhealth/countries/saudi\\_arabia/default.htm](https://www.cdc.gov/globalhealth/countries/saudi_arabia/default.htm).
- 9) GBD 2019 Diseases and Injuries Collaborators. Global burden of 369 diseases and injuries in 204 countries and territories, 1990-2019: a systematic analysis for the Global Burden of Disease Study 2019. *Lancet*. 2020; 396(10258): 1204-1222. Erratum in: *Lancet* 2020; 396: 1562.
- 10) Woolf SH, Chapman DA, Lee JH. COVID-19 as the leading cause of death in the United States. *JAMA* 2021; 325: 123-124.

*S. Bashir*<sup>1</sup>, *N. Altwajiri*<sup>2</sup>, *T.M. Al-Harbi*<sup>1</sup>, *T. Abualait*<sup>3</sup>

<sup>1</sup>Neuroscience Center, King Fahad Specialist Hospital, Dammam, Saudi Arabia

<sup>2</sup>College of Medicine, King Saud University, Riyadh, Saudi Arabia

<sup>3</sup>College of Applied Medical Sciences, Imam Abdulrahman Bin Faisal University, Dammam, Saudi Arabia