COVID-19 mortality in older people in Colombia

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INTRODUCTION

By 2020, people aged 60 and older corresponded to 13% (6,548,415/50,372,424) of the Colombian population. The group of people aged 60 or over increased on an average annual rate of 3.3%, in contrast to the youngest population, which increased by 1.7%.1 However, the country is not prepared to respond to the health needs that the growing older population requires. This issue has been reflected now when facing the COVID-19 pandemic.2

As we approach 1 year since the first COVID-19 case in Colombia in March 2020, the numbers are still overwhelming. By January 21, 2021, 1,972,345 cases have been confirmed and 50,187 deaths have been reported, which represents a fatality rate of 3.1 and 805 deaths per million inhabitants. Now, since the beginning of the pandemic, there has been a constant increase on the mortality rate of older people, especially in those with multimorbidity and 80 years or more.3

Determining mortality rates in times of pandemic represents a challenge due to the constant variability, and the difficulty to determine those who have died directly for COVID-19, for a concomitant infection, or for a different cause. Therefore, strategies such as monitoring of excess mortality (the difference between observed and expected deaths, based on mortality rates from previous years)4 and the active search for registered cases with a confirmed and presumptive diagnosis of COVID-19 infection have become important tools. These have been adopted and implemented in the follow-up of the COVID-19 pandemic by the Colombian Ministry of Health and Social Protection.5

RESULTS

We found a percentage growth of 15% in the mortality rate in patients aged 60 and older between 2015 and 2020. For the year 2015, the mortality rate from all causes in older people was 68% (150.126/219.472), reaching 72% (172.110/238.209) in 2020 (Table 1). Also, when we performed the analysis of mortality rates in all age groups by comparing the third trimester of 2019 with 58,436 deaths registered (31,868 male/26,541 female) and compared with the 88,854 deaths registered on the third trimester of 2020 (51,281 male/37,026 female), we notice an increased rate of 30,418 registered deaths (excess deaths), which represents a variation of 52% for the same period, and this surge is related to the peak of the COVID-19 epidemic.6

Among the main causes of mortality, using the PAHO 6/67 mortality list, we found a 76% increase in mortality in male, as the main cause we found COVID-19 with 19,258 deaths, followed by ischemic heart disease with 6,685, compared to female where there was a 42%
increase as the main cause also COVID-19 with 11,044 deaths and 5,321 due to ischemic heart disease.6

Another result we found is that the population aged 80 and older is the most affected group in terms of absolute mortality; therefore, the importance of the measures that were taken during 2020 for their protection and isolation contributed to the reduction of the rate of infection (Rt) and the impact on mortality.7

### DISCUSSION

Our work showed that the older population in Colombia was the most seriously affected by COVID-19 in terms of mortality. In addition, this age group has the higher burden of comorbidities where an average of three comorbidities was reported, which could explain the increased number of deaths per million inhabitants. Besides, social inequality is highly prevalent in this population; according to the SABE study, 68% (16,111/23,694) belong to the lowest socioeconomic strata. The previous situation is aggravated by the fact that there is no differential care for the older population. Thus, specific public health strategies seeking to reduce the burden of disease are needed.10

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### CONFLICT OF INTEREST

We declare no competing interests.

### AUTHOR CONTRIBUTIONS

William Gutiérrez conducted a bibliographic search, designed the tables described, performed the data collection and its respective analysis, and also contributed to the writing of the article. Paula Perdomo conducted a bibliographic search, collaborated with the writing of the text, made a style correction, and collaborated with the translation of the article.

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The authors did not have funding for the article.

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| Age group/year | 2015  | 2016  | 2017  | 2018  | 2019  | 2020  |
|----------------|------|------|------|------|------|------|
| 60–64 years    | 14.233 | 15.109 | 15.253 | 16.136 | 16.493 | 18.095 |
| 65–69 years    | 16.913 | 17.532 | 17.891 | 18.901 | 19.709 | 21.561 |
| 70–74 years    | 19.987 | 20.343 | 20.565 | 21.627 | 22.569 | 24.384 |
| 75–79 years    | 25.095 | 24.981 | 25.714 | 25.925 | 26.323 | 26.255 |
| 80–84 years    | 27.154 | 27.212 | 28.107 | 28.840 | 29.978 | 29.840 |
| 85–89 years    | 24.907 | 25.415 | 26.293 | 27.298 | 27.857 | 26.264 |
| 90–94 years    | 14.727 | 14.902 | 16.378 | 17.088 | 18.687 | 17.455 |
| 95–99 years    | 5.749 | 5.947 | 6.551 | 6.905 | 7.497 | 6.655 |
| >100 years     | 1.361 | 1.397 | 1.547 | 1.681 | 1.834 | 1.601 |
| Total          | 150.126 | 152.838 | 158.299 | 164.401 | 170.947 | 172.110 |
| % Change       | 0% | 2% | 5% | 10% | 14% | 15% |

**Note:** Data available from January 1 to October 31, 2020. 2015: 219,472 (121,395 Male/98,037 Female). >60 years: 150,126 (68%). 2016: 223,078 (123,806 Male/99,242 Female). >60 years: 152,838 (68%). 2017: 227,624 (125,450 Male/102,119 Female). >60 years: 158,299 (69%). 2018: 236,932 (130,776 Male/106,075 Female). >60 years: 164,401 (69%). 2019: 243,396 (134,041 Male/109,230 Female). >60 years: 170,947 (70%). 2020: 238,209 (135,354 Male/102,767 Female). >60 years: 172,110 (72%).

TA L E 1 Mortality in older people in Colombia in the last 5 years. National Administrative Department of Statistics (DANE)6
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