



# General Medicine: Open Access

**Short Communication** 

# COVID-19: Does Ageing Matter?

# Maria Joao Valente Rosa

Department of Sociology, FCSH-NOVA University of Lisboa, Lisbon, Portugal

#### **ABSTRACT**

A progressively ageing population was the landscape that the Covid-19 epidemic encountered when it struck the world in 2020. Given the relationship between Covid-19 and age, it would be logical to deduce that demographic ageing is a sufficient predictor of the impact of this virus on populations.

Focusing on European Countries-territory with an exceptionally high population ageing level and where the fatal incidence of the virus has been particularly significant-we conclude that demographic ageing is not a predictor of the impact of this virus on populations. The correlation coefficients, for 2020, between the percentages of people aged 65 or more and the Covid-19 mortality rates per 1 million inhabitants or between the "variation life expectancy at age 65, 2020-2019" and the "percentage of people aged 65 or more" were very weak. Individual age matters for the mortality rate of Covid-19, but population age (inside EU 2020) does not.

Keywords: Ageing; Covid-19; Population; Mortality

### INTRODUCTION

The world is ageing as a whole: 9.3% of the world's inhabitants are at least 65 years old, whereas in 1960 this figure was only 5.0%. By 2040 (medium variant projections), the percentage of people in this age group could correspond to 12.4% of the world's population [1].

Population ageing began in Europe, namely in European Union countries, placing that region as the most aged globally, with 20.4% of people aged 65 or more [2].

Populations have not aged by chance. One of the most important drivers of population ageing was the declining mortality levels resulting from significant social and scientific advances, namely in living conditions and medicine. The increase in life expectancy is an indicator of these advances, reflecting the risen chances of people, on average, reaching advanced ages and living longer. Hence, declining mortality levels are associated with a progressively ageing population.

#### **AGEING AND COVID-19**

A progressively ageing population was the landscape that the Covid-19 epidemic encountered when it struck the world in 2020.

We know that this virus is particularly aggressive for people with health problems and that these vulnerabilities accentuate with age. Evidence shows a strong relation between age and severe disease, hospitalization and death due to Covid-19 [3]. Therefore, given the relationship between Covid-19 and age, it would be logical to deduce that population ageing is a sufficient predictor of the impact of this virus on populations. However, if we limit ourselves to the European Union 2020 (excluding the United Kingdom)-a territory with an exceptionally high level of population ageing- we conclude that this relation is not obvious.

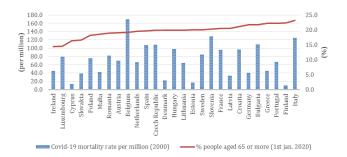
In effect, although some of EU countries figure prominently in the deadly incidence of the virus, the level of mortality isn't related to population ageing (Figure 1). Indeed, for EU (2020), there is no statistically significant relationship between the percentages of people aged 65 or more and the Covid-19 mortality rates per 1 million inhabitants the correlation coefficient, for 2020, was very weak (+0.162) [4].

Correspondence to: Maria Joao Valente Rosa, Department of Sociology, FCSH-NOVA University of Lisboa, Lisbon, Portugal, E-mail: mjvr@fcsh.unl.pt

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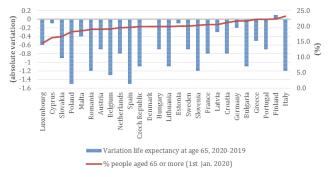
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**Figure 1:** Covid-19 mortality rate per 1 million inhabitants (2020) and percentage of people aged 65 or more (January 1, 2020), by EU countries. Data sources: Eurostat, Our world in data (author calculations).

Furthermore, it should be noted that COVID-19 was responsible for reducing life expectancy in 2020 (by comparison to 2019) in most EU countries, contrary to the general upward trend observed over time. In the case of life expectancy at age 65, it even decreased by more than one year in certain countries, as it was the case in Spain and Poland (-1.5 years); Belgium (-1.3 years); Romania, Italy and Slovenia (-1.2 years); Czech Republic, Lithuania and Bulgaria (-1.1 years). However, one cannot again infer any statistical relationship between the change in life expectancy at age 65 (2019 to 2020) and the percentage of people aged 65 or more (Figure 2). The correlation coefficient between "variation of life expectancy at age 65, 2020-2019" and the "percentage of people aged 65 or more, on January 1st, 2020" was nonexistent (+0.042) [5-8].



**Figure 2:** Life expectancy at age 65 variation (2020-2019) and percentage of people aged 65 or more (January 1, 2020), by EU countries (information not available for Ireland). Data sources: Eurostat (author calculations).

## **CONCLUSION**

Aged populations are not necessarily less robust than others to face a health crisis like that of Covid-19. Even if the virus places older people under greater vulnerability, population ageing levels are not an explanation of the lethal impact of Covid-19 on EU populations (2020) for, at least, two reasons. First, older people are a heterogeneous group, as the other age groups. Within this age group, one may find various degrees of vulnerability, also depending on social characteristics, namely education, socioeconomic status, living and housing conditions, social behaviors or forms of community life. Second, and relatedly, public policies to protect the most vulnerable or the types of health care provided are additionally important in the differential effect of Covid-19 mortality between countries.

Chronological age of individual's matters for the mortality rate of Covid-19, but its relevance is not a fatality neither can be isolated from social conditions or public policies circumstances. Ageing is not an illness. In fact, from a medical and health perspective, the most advanced countries have the highest levels of ageing. A population does not age because its citizens are ill but because they can overcome many illnesses, such as epidemics and infectious diseases.

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