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Short Communication

COVID-19 fatality rate for Saudi Arabia, updated 3 June 2020

Alberto Boretti

Prince Mohammad Bin Fahd University, Al Khobar, Saudi Arabia



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ABSTRACT

Aim of this work is to assess the fatality rate of Covid-19 infection for Saudi Arabia. The preliminary data up to June 3, 2020 suggest a fatality rate at about 0.9% of the more severely infected. This is much smaller than the values experienced in Western Europe, where the outbreak has been however more widespread. The likely fatality rate including mild and asymptomatic is about 0.2%. This is 4 times larger than the death rate for influenza and pneumonia for Saudi Arabia.

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In Saudi Arabia, end of May the rate of coronavirus disease 2019 (COVID-19) cases started a declining phase. New daily coronavirus cases peaked on 16 May 2020 at 2840 or 81.58 per million, whilst the number of currently infected cases peaked on 25 May 2020 at 28 728 or 825.19 per million [1]. Data are from the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU). The pattern of outbreak differs considerably from the pattern experienced in Europe [2]. Fig. 1a presents cases of COVID-19 per million for Saudi Arabia compared with the UK (total and daily new cases). Fig. 1b presents deaths attributed to COVID-19 per million for Saudi Arabia compared with the UK (total and daily new). Data in Ref. [2] are from the European Centre for Disease Prevention and Control (ECDC). These cases only include people who were tested and confirmed positive. The testing rules and availability vary by country and differ between Saudi Arabia and the UK. Attribution of fatalities to COVID-19 also varies by country, but it is expected to vary less.

Compared with the UK, the total number of cases per million is lower for Saudi Arabia, but the daily number of new cases has started declining only recently and it is at present above the value of the UK. The growth rate has been much larger in the UK, where the number of cases peaked much earlier. The number of fatalities is much lower in Saudi Arabia, despite it not yet started to decrease. The data of Ref. [2] are updated to 2 June 2020. The total cases per million are presently 2503 for Saudi Arabia versus 4071 for the UK. The total deaths per million are presently 15.08 for Saudi Arabia versus 575.16 for the UK. New cases per million are 54.03 in Saudi Arabia and 23.13 in the UK. New daily deaths per million are 0.632 in Saudi Arabia and 8.19 in the UK.

At this stage of the COVID-19 outbreak, it is possible to evaluate the fatality rate of COVID-19 for Saudi Arabia. Opposite

to [1] that evidences the number of deaths and recovered in closed cases and properly computes the fatality rate as the ratio between deaths and closed cases [2], computes the case fatality rate (CFR) as the ratio between confirmed deaths and confirmed cases and only mentions the difficulties to infer the infection fatality rate (IFR). The CFR is a poor measure of the mortality risk of COVID-19. The IFR is the number of deaths from COVID-19 disease divided by the total number of cases of COVID-19, which is not known with certainty.

The total number of closed cases, either recovered or deaths, for Saudi Arabia may be found not only in Ref. [1] but also in Ref. [3]. The total number of closed cases is not available for the UK in any of the databases. According to Ref. [1], the average death rate is 0.83% (549/66 339, as of 3 June 2020). According to Ref. [3], the average death rate is 0.84% (536/63 847, as of 3 June 2020). From [3], the percentage of deaths in the total closed cases is different across the provinces of Saudi Arabia, being 1.60% in Makkah Province, 0.24% in Riyadh Province, 0.28% in Eastern Province, 0.57% in Al Madinah Province and 0.33% in Jazan Province.

The abovementioned 0.84% is not yet the IFR, which is the number of deaths from COVID-19 disease divided by the total number of cases of COVID-19. It must be noted that the above data only refer to medium-to-severe COVID-19 cases that required medical attention. There is an overwhelming percentage of COVID-19 infections that do not require medical attention, either asymptomatic or very mild cases [4]. According to the World Health Organization (WHO) [4], data to early March suggested that 80% of infections were mild or asymptomatic, 15% were severe infection requiring oxygen and 5% were critical infections requiring ventilation. By taking 20% of the 0.83% fatality rate in closed cases among the medium-to-severe COVID-19 cases, the fatality rate of Saudi Arabia is therefore 0.166%. As a reference, the death rate for influenza and pneumonia for Saudi Arabia [5] is 49.64 per 100,000, or 0.050%.

E-mail address: a.a.boretti@gmail.com (A. Boretti).

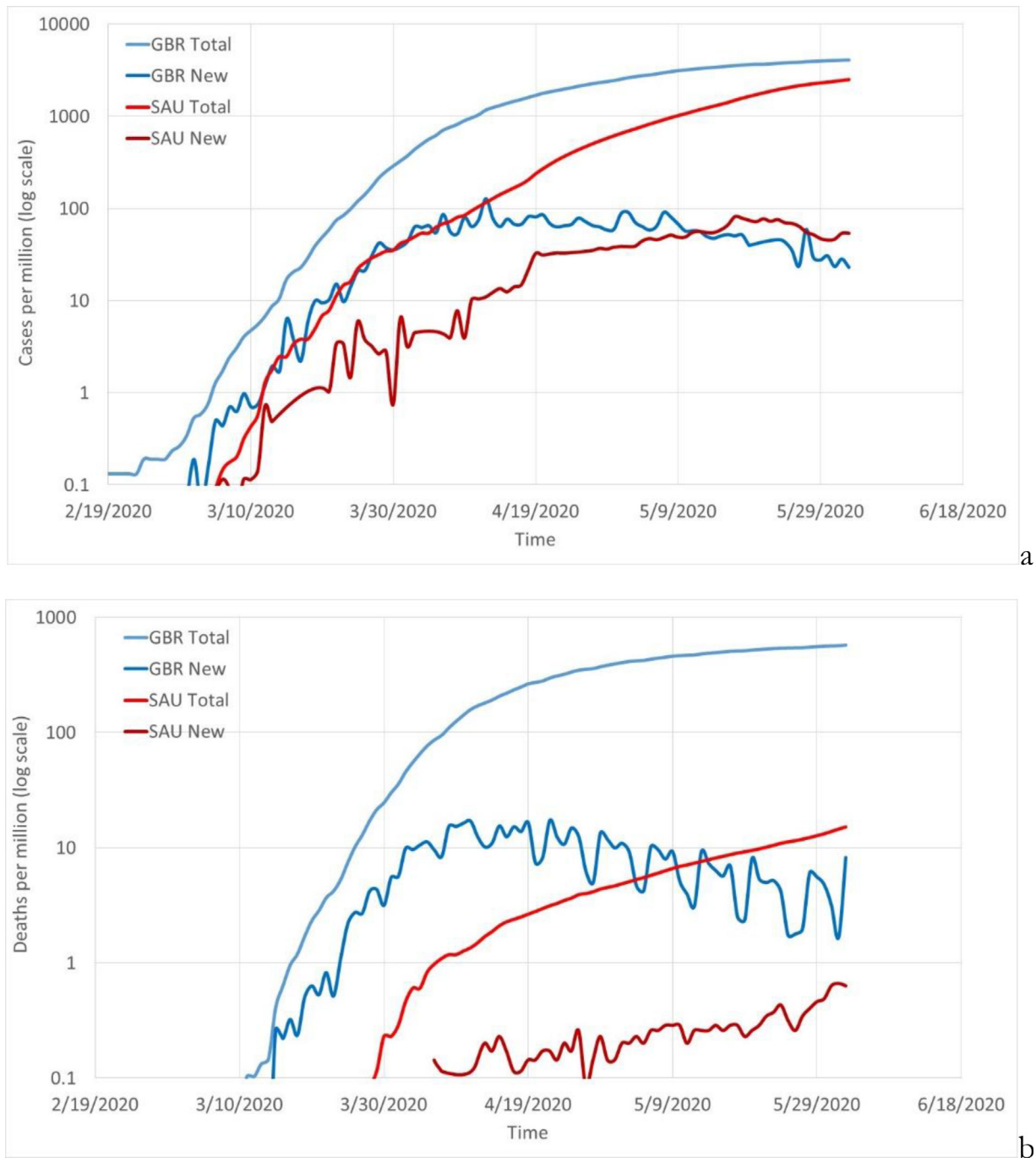


Fig. 1. (a) Coronavirus disease 2019 (COVID-19) cases per million and (b) deaths attributed to COVID-19 per million in Saudi Arabia (SAU) compared with the UK (GBR).

Conflict of interest

None declared.

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Ethical approval

Not required.

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