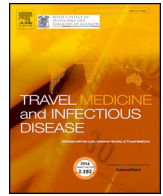




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## Correspondence

## Incidence of the COVID-19 in Iraq – Implications for travellers



Dear Editor

The first emerged Coronavirus Disease 2019 (COVID-19) was in Wuhan, Hubei Province, China at the end of 2019, then spread to the rest of China [1], followed by the spread of the COVID-19 epidemics into the world caused by the severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) [2]. Many epidemiological assessments in different countries from Asia, Europe, and North America have been published [3]. Nevertheless, there are countries in the Middle East like Iraq, with a rapid increase in cases and a high number of deaths, with a lack of studies.

It is worth noting that the Iraqi Foreign Ministry was working with Chinese authorities to evacuate the 30th Iraqi students with their families from the city of Wuhan, China to the capital Baghdad by February 5, 2020, the foreign ministry statement at that time noted that the Iraqi embassy in China had not recorded cases of infection among the students. They were quarantined for 14 days then declared free of COVID-19 infection and released by February 19, 2020. This briefing aims to register the reported cases by the governmental authorities including the incidence and the mortality rate of COVID-19 in Iraq under the hypothesis that, the imported cases were from Iran to other Middle East countries especially Iraq.

Surveillance cases data from February 24 to April 30, 2020, officially reported by the Iraqi health authorities were used to estimate the rapidly cumulated incidence rates of SARS-CoV-2 confirmed infections. During the first 37 days of epidemics, 694 cases of COVID-19 were reported in the country, with death cases reaching up to 50 deaths during March 31, 2020. An Iraqi family of four who returned from Iran tested positive for the coronavirus in Kirkuk governorate. They were the first Iraqis known to have caught the disease, a day after an Iranian student in the Najaf governorate became Iraq's first confirmed case on February 24, 2020. After two days another 2 tested positives for coronavirus cases in Baghdad were returning from Iran. The Iraqi government, which has already banned all travel from Iran and China, added Italy, Thailand, South Korea, Singapore, and Japan to its travel ban list, nevertheless the returning Iraqi citizens are exempt. The government urged Iraqis to avoid all public gatherings. Gatherings were banned in Iraqi governorates. Schools and universities were shut; the northern Kurdish region and the capital Baghdad canceled all education until after a March 20 holiday (Fig. 1).

Large numbers of Iraqis, including religious pilgrims and merchants, had been in Qom as the crisis escalated and were gradually brought back by bus and plane to Baghdad, where only small numbers of patients from their communities are being treated in public hospitals. Baghdad, the Arab world's second-most populous capital with 10 million inhabitants, imposed a curfew but the government's social distancing efforts are facing a hurdle, as pilgrims defy restrictions to com-

memorate the anniversary of the death of revered Shiite Imam Musa al-Kadhimi during March 18, 2020. Health authorities have reported 13 deaths and 164 infections in Iraq from the novel coronavirus by that time and reached up to 50 deaths and 694 after 2 weeks. However, many suspect the number of cases could be higher, as fewer than 4000 people have been tested in a country of 40 million. Iraqis health officials have expressed fear over the impact of a large outbreak in the country, as years of conflict and poor investment have ravaged the country's health system.

Iran is the third country with the highest number of reported COVID-19 cases after China, and Italy, up to March 16, 2020, with 14,991 cases, being the first in the Middle East region, and maybe becoming a significant source of imported cases in this area, in countries such as Iraq, Afghanistan, and Pakistan, among others [4]. A recent study, based on imported cases from Iran, estimated that 18,300 (95% confidence interval: 3770 to 53,470) COVID-19 cases would have had to occur in the country assuming an outbreak duration of 1.5 months [5]. All confirmed cases in Saudi Arabia are imported from Iran and one from Iraq and other cases are close contacts to those confirmed cases. Imported cases from Iran have been diagnosed in Kuwait, Bahrain, Iraq, Oman, Qatar, among other Asiatic countries, but also Georgia, Estonia, Belarus, and even New Zealand [6].

The COVID-19 outbreak in Iraq is still unclear and complex. Iraq authorities imposed a weeklong curfew after the first 10 deaths were recorded in the country, flights were also suspended from airports and several governorates also closed their borders, the schools and universities have suspended the education. The Iraqi's Health Ministry take action to deal with the current SARS-CoV-2 outbreak by opening a new molecular biological laboratory for the COVID-19 testing at Baghdad, Basrah and Erbil governorate which were delivered to Iraq by the Government of the People's Republic of China under the framework of cooperation agreements between the two countries and under supervision of the World Health Organization technical mission. Since the Central Public Health Laboratory was running only 100 detection tests per day, this will contribute significantly to increasing Iraq's diagnostic capabilities for COVID-19 that consider a critical factor in tracking the virus. For the moment of the proofs correction of this article, Iraq reached 2085 confirmed cases from the total of 92061 tested positive cases for COVID-19, with total deaths reaching 93 deaths and the total recovery of 1375 subjects (April 30, 2020).

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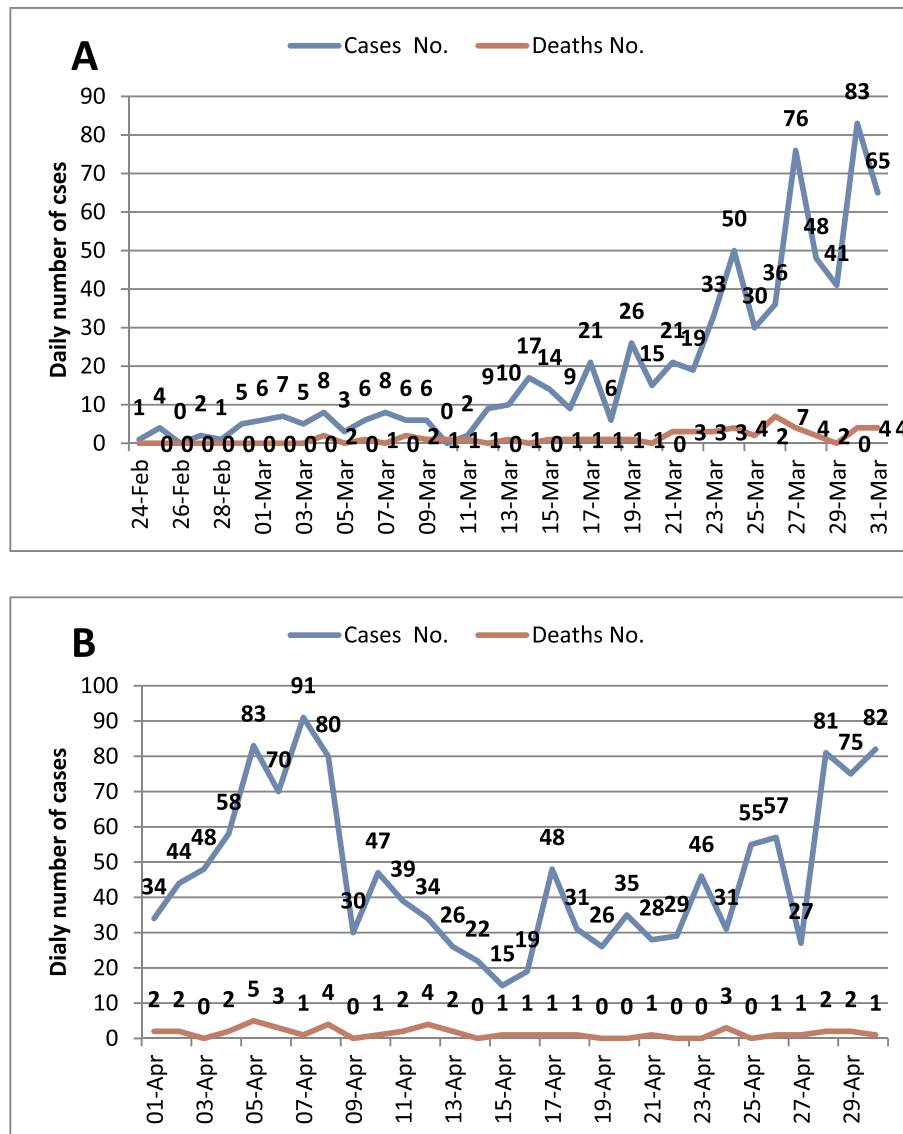


Fig. 1. COVID-19 situation in Iraq; number of daily cases and deaths. (A) During February 24 to March 31, 2020. (B) During April 1 to April 30, 2020.

#### Declaration of competing interest

The authors declare that there are no conflicts of interest.

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