Letter to the Editor

Strict social distancing measures helped early control of SARS-CoV-2 spread in Duhok city, Iraq

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Abstract
The aim of this letter is to discuss the pandemic management measures, including social distancing and community containment, taken in Duhok city in Northern Iraq, where a few patients were infected with COVID-19. During the first three months of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pandemic, 15 patients were diagnosed with SARS-CoV-2 in Duhok city. All the patients were asymptomatic and were discharged to their home within 10 ± 3.2 days after throat swabs indicated a negative SARS-CoV-2 Real Time Reverse Transcriptase Polymerase Chain Reaction (RT-PCR) test. The social distancing and lockdown measures taken by the city were implemented in three stages. In the first stage, all educational institutions including schools, colleges and universities were closed. In the second stage, all gatherings were banned. Finally, state-imposed community-wide containment was declared. The social distancing measures helped control infections in the city. Gradual reopening is recommended to avoid the spread of infection.

Key words: Social distance; early control; SARS-CoV-2; Duhok; Iraq.

The Study

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was identified in China in December 2019. COVID-19 infection was first detected in Iraq in February 2020. Duhok is a small city in the Kurdistan Region in Northern Iraq. The population of the city is about 1,200,000 people. The city, has camps of about 1,000,000 internally displaced people (IDP) and Syrian refugees. Duhok lies close to the border with Iran and Turkey, both of which were suffering from COVID-19, as well as Syria, a war-torn country.

During the SARS-CoV-2 pandemic, 15 patients were diagnosed with COVID-19 infection in Duhok. Among them, 5 had a history of travel to Europe (England and Germany) and 10 were their contacts. A confirmed case was defined as a person with a positive Reverse Transcriptase Polymerase Chain Reaction (RT-PCR) test regardless of the presence of symptoms. A total of 2691 people, including those who returned from overseas, were quarantined for 14 days in quarantine centers. Additionally, all individuals who came into contact with the confirmed cases were quarantined. A 'contact' was defined as being present with a confirmed case for more than 15 minutes in a closed environment. All the people in quarantine were examined daily for signs of COVID-19 and at the end

of the quarantine period, a swab RT-PCR test was done; only those with a negative test result were released. The patients who were diagnosed in the city, were either in quarantine centers or self-quarantined and diagnosed with COVID-19 during routine RTPCR testing at the end of quarantine. The age of the patients ranged between 10 months and 56 years, and there were 6 females and 50 males. All the patients were asymptomatic and did not require hospitalization. However, the local health authority required all the patients to stay at a special COVID-19 center until their throat swab was negative. The average time needed from the positive RT-PCR test until testing negative was 10 ± 3.2 days (range: 8-21 days). The medications administered to the patients at the COVID-19 centers included 800 mg hydroxychloroquine on the first day followed by 200 mg twice a day for five days, and 500 mg azithromycin on the first day followed by 250 mg once a day for five days.

Early uneventful discharge of the patients from the hospital may be explained by early diagnosis before the development of symptoms, early initiation of treatment and the relatively young age of our patients. In addition, analysis of 160 genomes of SARS CoV-2 had classified the virus into three types: A, B, and C, with A being the ancestral type based on the bat outgroup coronavirus

[1]. Moreover, continuous evolution of the virus by successive mutations and recombination processes has been reported [2]. Further comprehensive research that combines genomic data and epidemiological data is needed to explain the mild disease in our region. In addition, the bacilli Calmette-Guerin (BCG) vaccination program has been followed in our region since the late 1950s and all of our COVID-19 patients had received the BCG vaccine. Though the correlation between BCG and COVID-19 vaccine is yet to be determined, it may explain the mild COVID-19 cases observed in Duhok.

Social distancing is an essential measure to reduce interactions between people in the society and is used to help prevent infections transmitted by droplets. Studies from China showed that the death rate was about 10% in the epicenter of the epidemic whereas the death rate was 1% in other areas [3]. In another study from China, it was concluded that social distancing can reduce the number of infections by 98% and the number of deaths by 99% [4]. In the Kurdistan region, strict social distancing measures were imposed before the appearance of any COVID-19 case. Social distancing and lockdown measures went through three stages. In the first stage, all educational institutions including schools, colleges and universities were closed. In the second stage, gatherings including funerals, weddings and religious rituals were banned. During this stage, international borders were closed, except to Iraqi citizens who returned to their country. Finally, state-imposed community-wide containment was declared. The community-wide containment included a state-imposed curfew in the city. All these measures were employed at an unprecedented scale to control infection. The success of the public health measures in controlling SARS-CoV-1, and to a large extent SARS-CoV-2, in China provides impetus to continue such stringent measures for the control of the infection in our region. However, the social and economic impact of such a strict plan needs to be analyzed.

Conclusions

There were 15 asymptomatic COVID-19 patients diagnosed in the city of Duhok. The mild presentation with zero fatality justifies further research. Strict measures including community-wide containment may help with control of infection. Gradual reopening is recommended to avoid the spread of infection. This gradual reopening should occur in stages. Each stage should last for more than two weeks and the number of COVID-19 cases should be monitored. Any sharp increase in the cases requires comprehensive study before moving to the next stage. People should be advised to keep a safe distance, continuously wash hands and wear masks.

Acknowledgements

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