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The Pandemic of COVID-19: Current Scheme of Iraq (24 February- 8 August 2020)

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ABSTRACT

Late in December 2019, the Wuhan City of China faced an outbreak of the unknown etiological agent of COVID-19, which spread rapidly in China and then worldwide to include 188 countries or regions of Africa, Oceania, Australia, Europe, America and Asia including Iraq. There are 31,132,906 of infected people over the world and 962,008 of global death, whereas the infection numbers increase rapidly. Several methods have been considered worldwide in order to control COVID-19. In spite of limited resources in Iraq. The Iraqi government has also taken demanding measures includes safety guides during Ramadan in the context of Covid-19. In addition, several strategies are used for that purpose such as designed particular hospitals, laboratories for testing, quarantine facilities, and movement restrictions to control viral spread all over the country. This review highlights the efforts of the Iraqi government to contain this deadly pneumonia inside it as well as travellers from Turkey, Iran and other neighbour countries.

Keywords: COVID-19 pandemic, public isolation, Iraq's Crisis Cell, quarantine centres, deadly pneumonia.

INTRODUCTION

In the twenty-first century, the world has faced several devastating coronavirus outbreaks. These viruses, together with viruses in the suborders *Arnidovirineae*, *Cornidovirineae* and *Tornidovirineae* are members of the order *Nidovirales* that infect land-dwelling animals (Adachi *et al.*, 2020; Millán-Oñate *et al.*, 2020). Within the *Coronaviridae* (the family that includes coronaviruses) there are four genera, of which members of the genus *Alphacoronavirus* and *Betacoronavirus* are the most widespread in mammals (Hulo *et al.*, 2011). Before the discovery of COVID-19, and its causative agent SARS-CoV-2, there were only six human coronaviruses known, all of which are associated with respiratory infections. Mild infections are caused by HCoV- 229E, HCoV- OC43, HCoV- NL63, and HCoV-HKU1. On the other hand, the highly pathogenic coronaviruses are associated with two diseases in humans: The first is Severe Acute Respiratory Syndrome, caused by SARS-CoV, which appeared in 2002-2004, infecting approximately 8,000 people worldwide with a fatality rate of ~10%, and the second is Middle East Respiratory Syndrome, caused by MERS-CoV from 2012 to the present including around 2,500 cases with a mortality rate of 36% (Mutlk, 2018). In December 2019 a seventh human coronavirus emerged. In Wuhan city, Hubei province, China, a new pneumonia case appeared then spread throughout the country to the rest of the world at a very high rate (Rodriguez-Morales *et al.*, 2020). Respiratory samples were examined by the PRC (People's Republic of China) Centre for Disease Control (CDC) who identified the causative agent as a novel coronavirus, named by 2019-nCoV. On 11 February 2020 the International Committee on Taxonomy of Viruses (ICTV) and WHO named it as SARS-CoV-2, the causative agent of Coronavirus disease-19 (COVID-19) (Zu *et al.*, 2020) . After that, on 30 January 2020 the infection by COVID 19 was declared to be a pandemic by the World Health Organization, the sixth public health emergency of international concern (PHEIC). At the time of writing, SARS-CoV-2 has caused 31,132,906 confirmed cases with 962,008 global deaths, with numbers increasing steadily worldwide.

On 24 February in the city of Najaf, Iraq, a COVID-19 case was officially confirmed in a religious studies student from Iran (Chinadaily, 2020). According to the World Health Organization the mortality numbers due to COVID-19 in the border countries of Iraq are 302,867 in Turkey (north), 425,481 in Iran (east), 99,964 in Kuwait (south), 330,246 in Saudi Arabia (south), 4,779 in Jordan (west) and 3,800 Syria (west). In planning a public health response to the pandemic for Iraq, it is important to be aware of travel from Turkey and Iran, which have the highest mortality numbers. Also, of concern are travellers from Egypt and China, due to a high number of students studying in these two countries. An appropriate response to the constant rise in the number of COVID-19 positive cases requires a high level of action, including overall management of the situation and regulation of air travel. The purpose of this review is to focus on the Iraqi strategy in use to combat the SARS-CoV-2 (COVID-19) pandemic, including information on hospital locations, quarantine, laboratory testing facilities, treatments, community understanding and overall response to the COVID-19 pandemic.

Current Situation in Iraq

As stated by the Iraqi Ministry of Health including the Kurdistan area, there are total of 323K confirmed positive cases, recovered 258K and 8,625 deaths in the country as of Monday, May 5, 2020. The highest number of cases were reported in the Sulaymaniyah Governorate (9,756) followed by Erbil (8,004), Maysan (2,860), Najaf (2,483), Baghdad (2,234), Duhok (1,619), Wasit (1,018), Basra (747), Halabja (623), Al-Anbar (486), Karbala (152), Saladin (127), Al-Muthanna (117), Dhi Qar (96), Kirkuk (72), Babylon (49), Diyala (45), Al-Qadisiyyah (15), and Nineveh (12) as can be seen in Fig. (1). Up to the present time, the highest number of deaths occurred in Sulaymaniyah Governorate with (470), followed by Erbil (219), Maysan (121), Baghdad (97), Najaf (45), Al-Anbar (20), Halabja (12), Duhok (11), Karbala (8), each of Babylon and Diyala (5), each of Al-Muthanna and Dhi Qar (4), Kirkuk (2), and Al-Qadisiyyah (1). To date, there have not been any confirmed fatalities due to COVID-19 in Saladin and Nineveh Governorates.

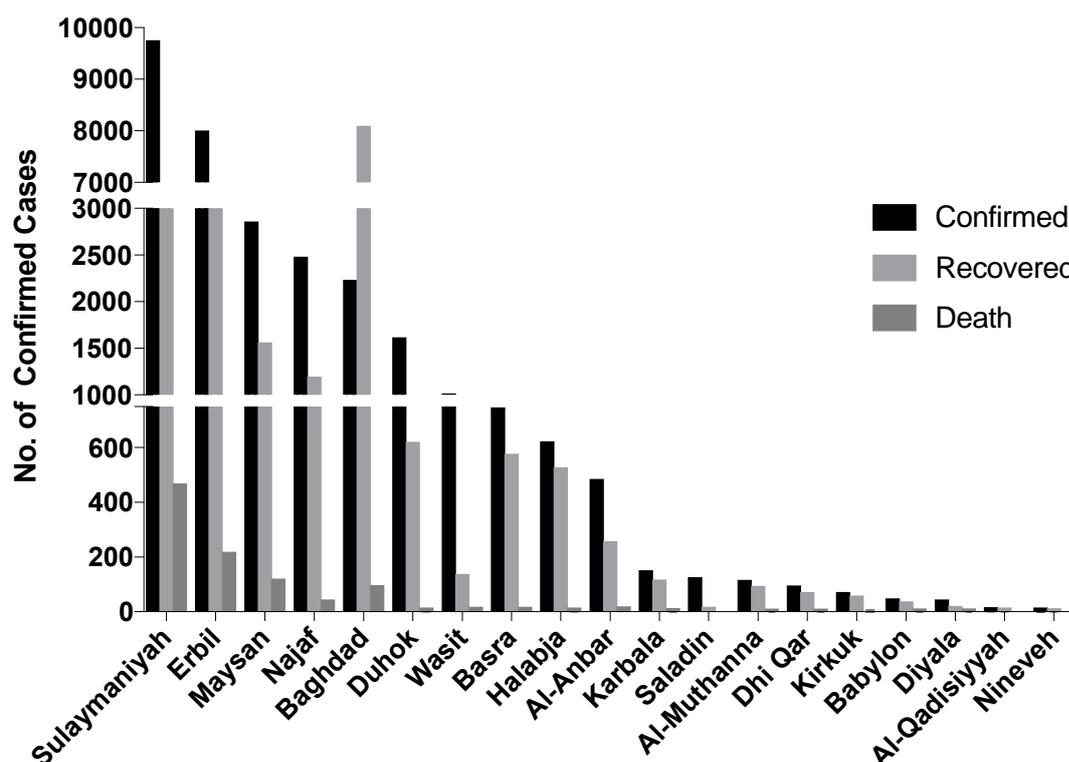


Fig. 1: Numbers of confirmed, recovered and death COVID-19 cases in Iraqi cities.

A total of 258K infected people have recovered in the Baghdad Governorate (8,097), followed by Sulaymaniyah (5,778), Erbil (4,101), Maysan (1,564), Najaf (1,196), Duhok (621), Basra (578), Halabja (528), Al-Anbar (258), Wasit (139), Karbala (118), Al-Muthanna (95), Dhi Qar (72), Kirkuk (59), Babylon (39), Diyala (21), Saladin (18), Al-Qadisiyyah (11), and Nineveh (6) to date as shown in Fig. (1).

Collaboration by Iraqi Government in the Fight Against COVID-19

As the pandemic of COVID-19 transmitted worldwide, the Iraqi Government has implemented procedures against COVID-19 in order to be sure that all requirements are accessible for their people. Subsequently, the first day on 24 February 2020 when an Iranian religious studies student in Iraq was the first case confirmed in the city of Najaf (CHINADAILY, 2020), all available facilities and actions were used in order to secure life in that region. Meanwhile, it was found that all the confirmed early cases had a travel history from adjacent countries with high levels of virus. Accordingly, restrictions for resident's transmission outside the country was the first priority for the Iraqi government as well as early case recognition and tracking and chasing of associates, risk communication, self and social Isolation in order to reduce COVID-19 spread (Waris *et al.*, 2020). Moreover, the Iraqi government put in place a temperature screening strategy for arriving airline passengers, sterilized public spaces and began public education, funding facilities and 122 as an emergency hotline for suspected cases and information.

On the 23 Feb 2020 the Ministry of Health in Iraq issued guidance to the public concerning Novel Coronavirus (COVID-19) (Government of Iraq, 2020). These basic protective procedures included:

- 1- Regular hands washing with soap and water for at least 20 seconds at a time. An alcohol-based hand antiseptic is suggested when the soap and water are not available.
- 2- Avoid touching the eyes, nose, and mouth with unhygienic hands.

- 3- Avoid close contact with people who have a cough or are sneezing.
- 4- Cover the mouth with paper tissue when coughing or sneezing, then dispose of it immediately (Government of Iraq, 2020).

In addition, for safety issue during Ramadan the WHO provided an instruction which will be followed by the Iraqi citizens and these instructions are includes:

- 1- Exercise physical distancing by strictly maintaining a distance of at least 1 metre (3 feet) between people at all times.
- 2- Exercise secure, distant greetings.
- 3- Consume a wide range of fresh and organic foods.
- 4- Drink a sufficiently of water among iftar and suhoor.
- 5- Stop Smoking under any situations, particularly through Ramadan and the Covid-19 pandemic.

Iraq's "Crisis Cell" said that all Iraqi citizens should strictly follow the worldwide curfew declared by the Higher Committee for Health and National Safety between 7 pm and 6 am from Sunday to Thursday, and for 24 hours a day from Friday to Saturday each week. The Crisis Cell highlighted the consequences of not fully following its prevention guidelines, involving physical distancing instructions, as the transmission of Covid-19 is accelerated by close contact between people, and advised Iraqis to stay home and to leave only when it is extremely necessary (World Health Organization, 2020).

Fund Relief for COVID-19 in Iraq

As the COVID-19 pandemic reached Iraq, health facilities were under challenge due to investment, war damage, poor control, corruption and doctor migrations whereby 20,000 out of 52,000 left the country in the previous three decades. Consequently, Iraq suffered a decline in skillful health specialists, only 14 hospital beds per 10,000 people are offered, 500 ventilators (~13 per 1 million citizens) and it spends \$152 per capita on health. Approximately 85% of necessary medications are at minimum quantity levels or unobtainable. However, funding support of US \$5 million was given from Belgium, the Netherlands and Sweden in response to COVID-19 pandemic. It will add to UNDP Iraq's initial US \$22 million response package, which is being applied to the Funding Facility for Maintenance (Enabling Peace Center in Iraq, 2020). In addition, Chinese support has been given, which up to now involves a testing lab in the capital city Baghdad able to achieve 1,000 test a day, testing kits (50,000), an expert team and several loads of protective equipment.

Designated Hospitals and Quarantines

As the pandemic of COVID-19 continue spreading around the country, special hospitals were designed for the purpose of infection management. This demand building up a quarantine centres and is different from isolation wards, which normally avoid separation of infection from sick or infected patients. These hospitals were used for isolation for COVID-19 patients in every province. This gave Iraq a good indication about how to control the COVID-19 pandemic through the distribution of these hospitals as area centres.

In Iraq three hospitals were designated by the Ministry of Health (MOH) to treat patients with COVID-19, one in the capital city in Baghdad's Ibn al-Khatib hospital. In Mosul, in Ninawa governorate, Médecins Sans Frontières (MSF) prepared a building in the Al-Salam Health complex, to be dedicated to the isolation of people with suspected cases of the virus. In Erbil governorate, MSF teams started collaborating with three of the MOH hospitals assigned for COVID-19 treatment, with the aim to provide technical support on infection prevention and control measures, patient triage, and mental health support (Iraqi High Commission for Human Rights, 2020).

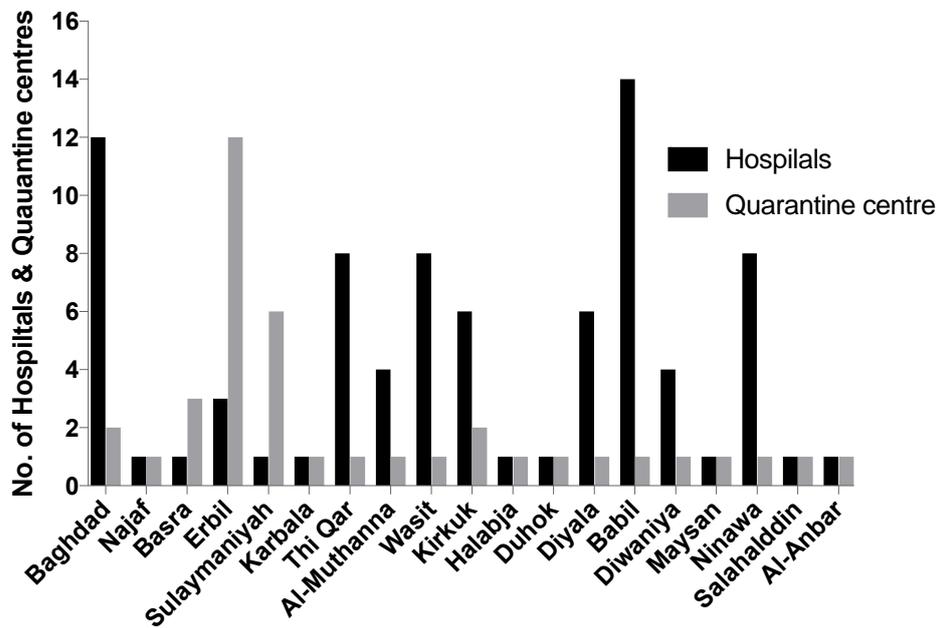


Fig. 2: Distribution of designed hospitals and quarantine centres in Iraqi cities.

In addition, in Baghdad the capital city, 12 wards in twelve hospitals were designed for confirmed cases and there were (2) quarantine centres. Basra (1, 3), Erbil (3,12), Sulaymaniyah (1, 6), ThiQar (8, 1), Al-Muthanna (4, 1), Wasit (8, 1), Kirkuk (6, 2), Diyala (6, 1), Babil (14, 1), Diwaniya (4, 1), Ninawa (8, 1). Whereas in Najaf, Karbala, Halabja, Duhok, Maysan, Salahalddin and Al-Anbar there was only (1) hospital and (1) quarantine centre as seen in the Fig. (2). Moreover, several hotels were rented in order to be used as quarantine centres (Iraqi High Commission for Human Rights, 2020).

Diagnosing Facilities in Iraq

Internationally, molecular methods including real-time RT-PCR (rRT-qPCR) are commonly used for the identification of COVID-19 infection due to its precise result, specificity and short period of test (Zhang *et al.*, 2020), so the Iraqi government also suggested using it for the same purpose. In this test a pharyngeal swab is used for COVID-19 RNA detection. On the other hand, serological methods are less used throughout the highest part of the epidemic. They use serum samples from recovered patients in order to estimate IgG titre. In severe cases computed tomography technique (CT) and X-Ray are used to identify the lesions of pulmonary pneumonia in the lungs in association with clinical signs and symptoms to provide a full picture of COVID-19 (Xu *et al.*, 2020). An alternate test is reverse transcriptional loop-mediated isothermal amplification (RT-LAMP), which is a rapid and colorimetric method used for detection of COVID-19. This method depends on amplifying of ORF1ab gene fragment by using 6 primers, as well as the use of phenol red as a pH indicator as amplification process occurs by a color change from pink to light yellow in positive result, whereas, in negative results, a color change does not occur (Yu *et al.*, 2020).

Conclusion and Future Prospects

The pandemic of COVID-19 caused by SARS-CoV-2 firstly appeared in Wuhan city, China and then rapidly became worldwide including Iraq. Researchers and health sectors in Iraq are working together for 24 hours with its utmost dedication in order to prevent the further spread and transmission of COVID-19 by following restriction rules with multiple approaches and preventions. The current situation of Iraq is not acceptable it has illustrated the need for

more facilities such as hospitals and quarantine centres. As a developing country Iraq finance is limited to be able to fight the COVID-19 pandemic if compared with UK, China or USA. As a result, an improvement in health facilities such as lab testing would lead to better control of COVID-19 transmission and prevention. There is no magic bullet for the situation in Iraq but there are global rules who can apply in Iraq as much as anywhere else, health strategies should be followed, such as staying at home, wearing gloves, using antiseptic and public isolation should be followed when required. Finally, Iraq requires more monitoring services and skilled teams to cope with the high level of travellers, both arrivals as well as for the departures. If these can secure investment Iraq will probably overwhelm the pandemic of COVID-19 and, just as importantly, be better prepared for the next pandemic whenever it occurs.

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جائحة كوفيد-19: المخطط الحالي للعراق (24 فبراير-8 أغسطس 2020)

الملخص

في أواخر ديسمبر 2019، واجهت مدينة ووهان الصينية نقشي العامل المسبب للمرض غير المعروف لـ COVID-19، والذي انتشر بسرعة في الصين ثم في جميع أنحاء العالم ليشمل 188 دولة أو منطقة (قارة) في إفريقيا وأوقيانوسيا وأستراليا وأوروبا وأمريكا وآسيا بما في ذلك العراق. حيث ان هناك 31,132,906 من المصابين حول العالم و962,008 من الوفيات العالمية، في حين أن أعداد المصابين تزداد بسرعة. تم التفكير في العديد من الطرق في جميع أنحاء العالم من أجل السيطرة على COVID-19. على الرغم من محدودية الموارد المتوفرة في العراق، اتخذت الحكومة العراقية العديد من الإجراءات او التعليمات الاحترازية خلال شهر رمضان خصوصاً. إضافة الى ذلك تم اتباع العديد من الاستراتيجيات مثل تصميم مستشفيات معينة، ومختبرات للاختبار، ومرافق الحجر الصحي، وقيود الحركة للسيطرة على انتشار الفيروس في جميع أنحاء البلاد. يسلط هذا المقال الضوء على جهود الحكومة العراقية خلال فترة كتابة المقال لاحتواء هذا الالتهاب الرئوي القاتل داخلها إضافة الى الأشخاص الوافدين الى البلد من تركيا وإيران والدول المجاورة.