Research Article

Comparing COVID-19 Control Model Between Iraq and Iran

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Abstract

The coronavirus pandemic has reached almost every country in the world. The pandemic and its response have had several short-term as well as long term impacts on human health, society, economy, and environment. For instance, the severe lockdowns imposed in certain countries have caused a widespread economic and humanitarian crisis. Therefore, it is crucial to draw important lessons from this pandemic to amplify our future preparedness and response capacities to similar situations. In this paper, the response strategies utilized by Iraq and Iran is analyzed with comparison of the impacts and outcomes of each strategy used for controlling the spread of the COVID-19 virus. The results show that travel ban, restrictive containment, and supports from the international community in controlling the spread of the virus had a more positive impact in Iraq compared to Iran.

Keywords: COVID-19, containment, lockdown, Iraq, Iran.

1. Introduction

COVID-19 has a devastating effect, globally. With time the mode of transmission of COVID-19 was understood and the controlling measures to limit the spread of the virus were adopted by most of the countries worldwide. Most of the countries across the world adopted policies like compulsory use of face masks, maintaining social distancing, adequate sanitization measures, restricting travel and public gatherings (including religious gatherings), and finally implementing partial to complete lockdown to contain the spread of COVID-19. After the World Health Organization (WHO), declared COVID-19 a global public health emergency, almost all the countries of the world took steps for their respective countries. However, different countries have been acting differently based on their caseload, infrastructures, the wave of the infection, socio-economic conditions. Some countries implied strict lockdown from the beginning while others applied gradually and sequentially. Interestingly, there is a dearth of explanations regarding the various rates of case fatality, caseload, and infection spreading regardless of the protection measures that demands further studies.

Iraq and Iran are two countries of the Middle East that have faced many socio-political and religious challenges, for several decades. Despite that, these two countries attempted to contain the pandemic by adopting certain measures at

the national level. The statistics of COVID-19 revealed a different scenario while comparing these countries albeit, having similar socio-political statuses. Conducting scientific research on two countries with substandard health infrastructure nevertheless vastly different COVID-19 control strategies is critical in determining the mechanisms underlying the strategic disparities in combating COVID-19 in those countries. This study was aimed at comparing Iran's policies for combating COVID-19 with Iraq policies and answering the question of why this disease in Iran spread extensively more than any other country in the Middle East? This is the first study to compare COVID-19 control models between two Middle Eastern neighbor countries, according to the literature and study results that would act as baseline evidence for nearby countries and/or a different setting and different waves and global infection breakouts.

2. Methodology

This study employed the narrative review approach to examine publicly available data from credible online sources, namely the websites of the Iraqi Ministry of Health and the Ministry of Health and Medical Education in Iran, as well as other academic and official online sources and academic papers and recent research works in the area. In June 2021, an exploratory search was conducted on the mentioned websites for published documents and news reports on COVID-19 fighting strategies in Iraq and Iran from January 2020 to June 2021. It is worth mentioning that narrative review is considered to be a quite efficient approach for comparing the two country strategies in response to COVID-19 spread and investigation such models.

3. Iraq's Perspective

3.1. Case Load

The first case of COVID-19 in Iraq, an Iranian student, was detected in the Najaf governorate on 24 February 2020. The Ministry of Health reported four COVID-19 cases in Kirkuk Province on 25 February 2020; the patients are family members who have recently returned from Iran (Wilson & Chen, 2020). After two days, two more confirmed positive cases of Coronavirus arrived in Baghdad from Iran. As the crisis worsened, many Iraqis, including religious pilgrims and merchants, were evacuated from Rome. Iraq has 2085 confirmed cases out of 92061 cases that have been tested positive. Ninety-three people have died, with 1375 recovered as of 30 April 2020. As of 11 May 2021, Iraq has 1,122,914 infected cases, 15,834 deaths, and 1,018,167 recovered cases (worldometers, 2021b).

3.2. Social and Political Context

Due to Iraq's ongoing crisis since 2003, the country's health system has faced significant challenges in combating the COVID-19 pandemic, as well as a shortage of critical medical supplies. In Baghdad's public hospitals, only a small number of patients from their families are being served. As a result, the Iraqi government leaned heavily on foreign policies and the WHO instructions, and several stringent national lockdowns and international support. According to (USAID, 2021), the US government was given nearly $60 million to Iraq through the US Agency for International Development (USAID) to fight the COVID-19 pandemic. Likewise, WHO Regional Office for the Eastern Mediterranean (WHO in Iraq, 2021) reported in 2021 that the WHO presented the Ministry of Health in Iraq's Kurdistan region with 13 tons of medical supplies and equipment in February 2021 (WHO in Iraq, 2021). This donation expanded intensive care capability in Iraq in response to efforts to monitor the recent rise in COVID-19 cases. The supports include personal protective equipment (PPE), COVID-19 diagnostic kits, oxygen concentrators, oximeters, intensive care beds and instruments, hospital bedding, and related medical furniture, patient monitors, and other products.

3.3. Controlling Measures of the COVID-19 Pandemic from February 2020 to May 2021

3.3.1. Travel Ban

Government of Iraq (2020d) claims that on 23 February 2020, the Iraqi Ministry of Health issued advice to fight COVID-19. The Prime Minister authorized the Government Crisis Cell to implement a travel ban on nationals of the Islamic Republic of Iran from entering the country. The patient, who is a student from Iran, entered Iraq before the government's decision. Italy, Thailand, South Korea, Singapore, and Japan have been added to Iraq's travel ban list, including Iran and China. In addition, flights to and from Iraq were from 22 March 2020 until 28 March 2020 (Government of Iraq, 2020d). The Higher Committee for Health and National Safety (HCHNS) agreed on the following measures on 31 May 2020: permit Iraqis to travel abroad because they self-quarantine for 14 days at home when they return to Iraq and are checked for COVID-19 at the Iraqi border crossing site. All Iraqi nationals returning home must undergo clinical and rapid COVID-19 examinations. Those who test negative were required to self-quarantine for 14

days at home. Those that test positive for COVID-19 or had signs of the disease were sent to specialized hospitals (Government of Iraq, 2021e).

On 9 April 2020, Iraq's High Committee for Health and National Safety (HCNS) decided on quarantine rules for returning Iraqi nationals. Countries with an infection rate of more than 500 per million people are deemed high risk (Group A), although states with a lower-case rate are deemed to be low risk (Group B). Iraqi nationals returning from countries listed in this group were subject to medical examinations at Iraq's border crossings.

As stated by (Government of Iraq, 2020f) on December 23, 2020, in response to the latest Coronavirus variant detected in several countries, the Cabinet agreed to several steps, including travel from and to the United Kingdom, Denmark, the Netherlands, Belgium, Iran, South Africa, Australia, and Japan is prohibited. Iraqis, on the other hand, would be subjected to a 14-day mandatory quarantine. Except in emergencies, all land border crossings will be closed.

The committee reviewed the most recent COVID-19-related developments on 14 January 2021 and agreed to include a travel ban to and from Australia, Austria, Belgium, Brazil, Denmark, Finland, France, Georgia, Germany, Greece, India, Ireland, Japan, Luxembourg, Slovakia, South Africa, Spain, the United Kingdom, the United States, and Zambia. Passengers from these countries should not be allowed to enter Iraq, except for Iraqi nationals subjected to a 14-day mandatory quarantine. Envoys, government delegations, and international organizations, and specialists acting on humanitarian projects, are excluded from the entry ban if they present a PCR test completed within 72 hours of their arrival (Government of Iraq, 2020f).

3.3.2. Raising Awareness

Government of Iraq (2020b) reported that on 26 February 2020, the Cabinet received a comprehensive briefing on COVID-19 from the Minister of Health and the steps announced by the Government Crisis Cell to curb the virus's spread, including the Ministry of Health's public health awareness campaign. The Cabinet also instructed relevant authorities to maintain close cooperation with neighboring countries and the WHO.

3.3.3. Containment Strategies

Government of Iraq (2020c) released a meeting of senior ministers chaired by Prime Minister in Baghdad on 16 March 2020, to discuss additional steps to curb the spread of COVID-19 in Iraq. The meeting agreed to various new steps, including declaring a curfew in Baghdad for a week beginning on 17 March 2020, following WHO guidelines, directing competent authorities to take appropriate action.

The Iraqi government's Crisis Cell declared several additional steps on 22 March 2020, including the extension of the curfew in Baghdad and across Iraq until 11:00 p.m. on 28 March 2020. Pharmacies, medicine shops, grocery stores, bakeries, and gas stations are all exempt from the curfew. Medical, defense, and media workers and employees of internet service providers, employees of the Iraqi Central Bank, state and private banks, and e-payment firms are not included. By 28 March all schools, universities, and colleges were closed. Also, on 26 March 2020, the Cabinet agreed to extend the curfew in all Iraqi regions until 18 April 2020 (Government of Iraq, 2020a).

The HCHNS agreed on the following measures on 31 May 2020: Grocery shops, bakeries, and pharmacies were excluded as long as no more than five customers enter at a time, and all employees and customers wear face masks. Restaurants must remain locked; however, they are permitted to have home delivery. Except for the ministries of health, electricity, agriculture, water resources, and security ministries and municipal services, all ministries were closed during this period. Face masks are also required to be worn in public, with penalties imposed on those who do not comply (Government of Iraq, 2020d). Iraq's HCHNS has extended the nationwide curfew until 13 June 2020. Also, beginning on 14 June 2020, impose a partial curfew between 6 p.m. and 5 a.m., as well as a 24-hour curfew every Thursday, Friday, and Saturday, and maintain the ban on all gatherings in any manner. Correspondingly, new measures announced by the HCHNS on 7 July 2020 like enact a partial national curfew between 7 p.m. and 6 a.m. from Sunday to Wednesday, and a complete curfew from Thursday to Saturday.

As stated by (Government of Iraq, 2020d) on 23 December 2020, in response to the latest Coronavirus variant detected in several countries, the Cabinet agreed to several steps, including Restaurants, malls, shopping centers, and nightclubs were closed for two weeks starting 24 December 2020.

During the month of Ramadan, a partial curfew was imposed from 20:00 to 05:00 the following morning for the first three weeks of Ramadan. A complete curfew on Fridays and Saturdays every week was implemented. Many who work in retail stores, restaurants, malls, warehouses, and other locations where health regulations apply will need to be inoculated. Sports clubs were authorizing any of the players to participate unless they have a COVID-19 vaccine inoculation pass (Government of Iraq, 2020d).

3.3.4. Testing Facility

Iraq's Ministry of Health opened a new molecular biological laboratory in Baghdad's Medical City on 25 March 2020 to screen for the COVID-19 suspected cases (Government of Iraq, 2020c). Besides, exemption of all drugs, medical supplies, and instruments, diagnostic and laboratory equipment from import license regulations was one of the steps decided upon by the Committee transferring $50 million to the General Company for Medicines and Medical Supplies Marketing by creating a committee to determine current and potential consumer needs for food, medical supplies, and agricultural products, to promote Iraqi products.

3.3.5. Vaccine

As stated by (Government of Iraq, 2020) on 23 December 2020, in response to the latest Coronavirus variant detected in several countries, the Cabinet agreed to several steps, including directing the Ministry of Finance to pay for the Pfizer Coronavirus vaccine. The National Coronavirus Vaccination Campaign was begun on 30 March 2021, and the Ministry of Health has established an easy system for citizens to register and obtain vaccinations by registering online https://cov19reg.phd.iq/, which was sent to citizens through SMS (Government of Iraq, 2020d).

4. Iran's Perspective

The emergence of COVID-19 in China has affected almost all countries around the world, but some countries are excessively more affected than others. Iran, a country with a population of over 80 million, is one of those countries affected by COVID-19 more than any other country in the Middle East.

4.1. Case Load

Iran's first recorded cases of infection were registered in Qom on 19 February 2020. The virus may have been brought to the country by merchants from Qom who had travelled to China. The Iranian government reported two death cases related of COVID-19 in Qom city, 150 kilometers south of Tehran, on 19 February 2020. The disease spread more quickly in neighboring provinces such as Tehran, Markazi, Isfahan, and Semnan, and then quickly spread across the country's 31 provinces, and most cities and towns (Abdi & Mirzaei, 2020). As of 16 March 2020, 14991 cases of COVID-19 were recorded from all Iran provinces, with 853 deaths (GRF, 5.69%). Tehran had the highest rate, with 3774 positive cases. (Ministry of Health and Medical Education, 2020). According to a spokesperson of the Iranian ministry of health and medical education, the overall positive infected individuals have reached 71688 cases, plus 4474 fatalities, as of 12 April 2020 (Ministry of Health and Medical Education, 2020). Iran has experienced four waves of coronavirus infection spread since announcing the first two deaths in February 2020. According to Worldometer daily data, Iran has a record of 2,691,352 confirmed cases, with 75,568 deaths and 2,144,197 recovered cases by 11 May 2021 (worldometers, 2021a).

4.2. Social and Political Context

Since 1979, the United States has imposed commercial, trade, science, and military sanctions against Iran. In addition, the United States has placed a trade embargo on Iran and a ban on exporting aircraft and reparation sections to Iranian flying companies (Haidar, 2017). As an outcome of these sanctions, the government decided to double the gasoline price to compensate for a stark decline in revenue from oil exports, while official media said that the price increase was unrelated to the budget. Soon after announcing raised gasoline prices, protestors erupted across the main cities, and the government suppressed all public demonstrations violently. The suppression of youth demonstrations has further exacerbated the Islamic Republic's legitimacy problem. Furthermore, in light of the celebrations for the anniversary of the revolution and the parliamentary elections in February, Corona cases were not made public for quite some time (Zamirirad, 2020). The need for mass participation in the Islamic Revolution anniversary celebration and the need for maximum participation - in the Islamic Republic's word - in the parliamentary election forced the Iranian government not to make Corona cases publicly. Nevertheless, it is evident that under the conditions mentioned above, corona virus has spread more extensively than any other countries around the world; therefore, for comparing Iranian health policies and strategies for crisis management to other countries, these factors must be scrutinized.

4.3. Iran's strategies for combating COVID-19

Although Iran was more effective than other developed territories, for instance Italy, in managing and preventing patient deaths (GFR, 6.815), this country faced more difficulties in controlling this pandemic.

4.3.1. Testing and Healthcare Facility

COVID-19 patients receive free diagnostic and treatment services, forming at least one hospital in each district to provide specialized care for patients.

4.3.2. Raising Awareness and Support for the Community

Using the Islamic Republic of Iran broadcasting system and other media to carefully educate and promote a healthcare community, as well as introducing mobile apps, blogs, and a telephone answering system to answer questions regarding COVID-19. In addition, under the auspices of the national headquarters for coronaviruses, the government funded small and large enterprises to compensate (Mohammadzadeh *et al.*, 2020).

4.3.3. Containment Strategies

At the beginning of the COVID-19 pandemic in Iran, among the most successful actions were reassuring citizens to remain at home. The government took several strategies like sanitizing communal transport such as metros, buses, and taxis daily, and canceling sports competitions, providing students with distance and online infrastructures, and increasing the capacity of mask and disinfectant production by more than seven times.Iran focused on social distancing in the early days of the disease's spread. However, Iran avoided forced quarantine and lockdown of cities and provinces. Universities, schools, churches, mosques, and Friday prayers were also closed, resulting in the cancellation of sporting events. One of the steps taken to separate the government from the public was the closure of government organizations, with the exception of important functions (Abdi, 2020). The Iranian government eased its lockdown measure on 11 April 2020 and permitted low-risk businesses and government office to operate. Following a dramatic surge in coronavirus infections, businesses in Iran have been forced to close for two weeks, as Iranian health officials urged people to stay home and stop unnecessary travel in June 2020.

4.3.4. Vaccine

The first shot of the Russian Sputnik-V vaccine was given to the Health Minister's son on 9 February 2021, marking the formal launch of Iran's mass COVID-19 vaccination program. The first party to obtain the vaccine is healthcare staff who are fighting the Coronavirus (REUTERS, 2021). According to (REUTERS, 2021), Iran has administered at least 1,767,570 doses of COVID-19 vaccines, with 1.8% receiving at least one dose and 0.4% receiving complete vaccination. It is now doing 64,147 doses a day, which is the fastest 7-day pace it has ever done (Eqbali & Rasmussen, 2021).

A comparative statistic of different variables of Iraq and Iran has been mentioned in Table 1. The above statistics clearly show that Iran's policies and strategies for combating COVID-19 have not been efficient.

Table 1. Comparison of COVID-19 statistics parameters between Iraq and Iran*.

COVID-19 statistics parameters	Iraq	Iran
Total population	40,990,787	84,911,245
Total cases	1,122,914	2,691,352
Total cases/ million population	27,394	31,696
Total deaths	15,834	75,568
Total deaths/ million population	386	890
Total recovered	1,018,167	2,144,197
Total tests	9,745,496	17,343,586
Total tests / million population	237,748	204,255

*Data till 11 May 2021.

5. Discussion and Findings

This study attempts to analyze the response strategies utilized in Iraq and Iran in controlling coronavirus and provide insight and in-depth detail of the impacts and outcomes of each strategy. In addition to that, answer the question of why Iraq has a more positive and successful experience in preventing the spread of the virus compared to Iran.

The review pointed out some variations of controlling measures. Although the experiences of other countries have shown that two strategies of the travel ban and implementing forced quarantine can prevent the rapid spread of the pandemic, the Iranian government has not utilized these two strategies efficiently. The Iranian government at first lingered on lockdown the entire city of Qom, and despite declaring 2 deaths in February 2020.

Qom is a holy and religious city, and it has many pilgrims and religious passengers every day. In the first days of announcing two deaths in this city, the Iranian state cabinet lingered on lockdown in the city and implemented mandatory quarantine; therefore, the disease spread to vast areas of the country, and therefore, the Islamic Republic of Iran was incapable of imposing a forced quarantine on provinces and towns, while China, the US, and Italy used this method.

Despite these successful measures, Iran was unable to monitor the spread of COVID-19 due to difficulties in quarantining provinces and towns, or at the very least, locking down the entire city of Qom and imposing a curfew across the nation.

In spite of the previous experiences from SARS and Ebola and WHO recommendation, Iranians were only permitted to stay at home and continue their self-quarantine; there was also no law enforcement to ensure that the home stay for contact reduction was carried out. Initially, Iran did not impose any quarantine or travel restrictions, which may have aided in the rapid dissemination of COVID-19 through all 31 provinces in less than two weeks, and the country's lockdown was ineffective and incomplete.

Almost all infected countries used strategies of quarantine and travel bans, and these two policies may delay the spread of the disease, but, under the effect of severe sanctions imposed by the United States and fearing of an economic collapse from the pandemic, the Iranian government eased its lockdown measure on 11 April 2020 and permitted low-risk businesses and government office to operate. All was silent in Iran till June 2020, after the mass media verified a worrying sharp increase in COVID-19 cases, which reflected the peak level in March 2020: 3574 new infections in 24 hours as of June 3. The WHO registered 171789 cases and 8281 deaths in Iran as of June 8. The country seems to have been hit by a second wave of the virus (Venkatesan, 2020). Iraq got support from several international organizations including WHO whereas we couldn't find any evidence of such support for Iran.

Conducting a greater number of tests proactively, may be helpful in detection of maximum number of cases and early detection may help in effective management of COVID-19. Iran had more than double the death rate than Iraq. Facilitating the healthcare service for critically ill is supposed to reduce the mortality. We know from previous experience with SARS and Ebola that travel bans positively affect case growth (Errat *et al.*, 2020). To prevent spreading the virus, WHO also recommended that countries prepare service centers, labs, and healthcare providers with sufficient supplies of appropriate equipment, establish a resource management system, create an inter-sectoral crisis management work group in cooperation with other organizations, and inform and educate the public and healthcare providers (World Health Organization, 2020). Enhancing capacity building to expand the healthcare delivery was expected to control the pandemic effectively. Ensuring the policy implementation and monitoring measures to periodically update it as per the need is fundamentally important to combat a pandemic like COVID-19.

The findings have several implications. It is important to understand that how various socio-political and policy related factors influence the COVID-pandemic control in two countries of similar population characteristics. Moreover, these variations would be the potential considerations for further waves during this and/or future pandemic in the same and/or different settings.

The major and evident parameters are taken into consideration while doing the cross-national comparison. There might be several other factors that might be responsible for the difference in the progression of the pandemic. We referred to the published scientific articles, reports, and news articles as matters of evidence. The level of evidence may vary among this literature and there may be potential biases in the media reports discussing the socio-political scenarios.

6. Conclusions

This narrative review reviewed the COVID-19 controlling measures adopted by two the Middle East Muslim countries i.e. Iraq and Iran that revealed several differences between these countries while emphasizing the strategies. The travel ban, strict lockdown measures were implemented in Iraq whilst Iran was reluctant to restrict the movements and containment strategies. Additionally, Iraq got more support from the international community than Iran to combat this COVID-19 pandemic. This is the first study to compare COVID-19 control models between two Middle Eastern neighboring countries that would provide insight for the prevention of COVID-19 in other settings or during the further waves. Nevertheless, a prudential interpretation is warranted because of the method of this review and the quality of the data. Further studies focusing on the exploration of attributing factors to these differences are recommended. Moreover, from the data it could be noticed that the time of response had a great impact on the spread of the virus as Iraq started the response much earlier than Iran, and this resulted in a much positive impact.

Data Availability Statement

The raw data supporting the conclusions of this article will be provided on request from the corresponding author.

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