

Combating COVID-19 Pandemic in West Asian Countries, Taking the United Arab Emirates (UAE), as a Success Story

Hajar Saeed Al Hubaishi

Ajman Statistics Center, Ajman, United Arab Emirates

Email: abdelrahim.ali4000@yahoo.com

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Abstract

The United Arab Emirates (UAE) became the first state in the region to record a positive case, and the number of cases started growing in succeeding days. In return, the UAE government adopted tough measures to enforce isolation or quarantine. On 26 March, 64 people were referred to prosecution for violating quarantine instructions. The government has categorized the list of essential services to allow free movement of employees in sectors such as banking and financial services; civil aviation; construction; education; energy; government media; health and pharmacies; law enforcement and armed forces; postal service, shipping, and logistics; telecommunications. The purpose of this paper is to provide information on how the UAE Government handled the pandemic since its spread, by shedding light on the governmental efforts to contain the spread and to maintain continuity of businesses and education. In summary, the methods used comprise, swift reaction to curb, contain the pandemic, and develop massive national policies and plans. The UAE employed varied mechanisms and procedures in its comprehensive response to manage the crisis and demonstrate the flexibility of institutions and the ability of authorities to do effective and efficient management, which operates at various levels.

Keywords

UAE, West Asian Countries, COVID-19 Pandemic, Combating, Vaccination, Crisis Recovery

1. Introduction

The West Asian region was one of the worst affected regions, hit by the COVID-19 pandemic. Some countries subsequently, emerged as a major hotspot

for the transmission of the virus in the region. The variations in timings in terms of precautionary screening and restrictive measures have been critical to determine the scale of the pandemic among different states in the region. The failure to contain the transmission of the virus reflected governments inaction and lack of preparedness (Calabrese, 2021).

Several key aspects have emerged from the experiences of West Asian Countries with the COVID-19 pandemic. After the outbreak in the region, the governments resorted to flight bans. The poor screening process prior to suspensions was a crucial factor for the initial transmission of the virus in the region. Flight ban was followed by restrictive measures such as closing down of schools and offices, ban of public gathering, social distancing, confinement, lockdown, penalties etc. The confinement measures in few states like UAE have opened opportunities for remote working and distance education by legalizing application of Microsoft Teams, Zoom etc. The governments in most countries were aware of the risks involved in religious gatherings. Therefore, mosques and other places of worship were effectively closed. Religious leaders in several countries delivered sermons to create public awareness about the pandemic (Connell, 2020).

The West Asian countries were cautious of the economic downturn due to the ongoing crisis. Several states have introduced financial measures to stabilize the economy. Few states were however undergoing economic crunch and were relying on loans and humanitarian aids to cope with the crisis. So, several states released prisoners to curb the spread of the virus in prisons. Moreover, these situations have raised debates on whether the right to privacy violations and extra-constitutional powers are justified to contain the pandemic (Das, 2020).

2. General Outlook

Worried by the return of COVID-19, governments of the southwest Asian countries, were swiftly reacting to curb and contain the pandemic, by developing massive national policies and plans (Eichengreen, 2020). These curb and containment measures helped to limit the first wave. But since then, the situation appeared to be diverting while the Gulf countries seem to have flattened the infection curve so far, and the sanitary situation appears much more fragile in the region. The crisis will be a critical test for the region's fragile resilience and could dramatically erode its prosperity and challenge its political stability, if risks materialized, for the region's economies and societies alike. Countries may like to capitalize on their national policy efforts to improve comprehensiveness, sustain welfare provisions, and promote a structural reform agenda, for more open and private sector-led economies, aligned with the Sustainable Development Goals.

However, the general global economic picture is looking so blurry, with uncertainty in almost every developed, transitional, emerging and developing economies across the world. But this picture might even get worsened, in case of the virus mutation, emergence and return in a second, or a third round of the epidemic. However, it looks also hard to see a looming exit or light in the horizon,

which means that uncertainty will continue and remain high, slowing down the world's largest economies and dragging down as well, the global economy along the way (Hans-Werner, 2020). The combination of lower fiscal revenues, and higher public spending, will lead many countries' economies to contract, putting them on the brink of debt crises. The views of some world leaders on when life will return to normal, varied enormously. Some believed their countries could "turn the tide" within weeks, while others suggested that their countries could open up again "fairly soon". However, to date, the numbers of people getting the virus are globally on the rise since the first wave. This fast spreading has urged many countries around the world, to effectively take some measures, in order to contain the outbreak (Szmigiera, 2022). The possible exit strategy for the coronavirus pandemic could occur when enough people have developed an immunity to the outbreak through infection. That is, the controversial concept known as "herd immunity."

Vaccination programs progressed quickly in the GCC countries, Israel, and Turkey, with more than half of the population having received two shots by October 2021. In Israel, Turkey and the United Arab Emirates, additional booster shots were administered in the second half of the year. Other countries struggled to raise the vaccination rate amid supply constraints and vaccine hesitancy. Despite these difficulties, vaccination has steadily progressed in Iraq, Jordan, and Lebanon, whereas the vaccination rate is likely to be extremely low for other countries (Joshi, 2020).

In the first half of 2021, COVID-19 outbreaks compelled governments to introduce lockdowns, curfews, social distancing, and mask requirements. Stringent lockdowns of various durations were implemented in most countries. These measures were eased in the second half of the year, replaced by vaccination promotion, including booster shots, and with softer social distancing measures. Border entry restrictions were also gradually lifted, replaced by COVID-19 test and vaccination requirements (John Hopkins University, 2020).

Governments in the ESCWA region were obliged to step up fiscal consolidation in the face of rapidly growing public debt. Fiscal expenditure in real terms has significantly declined in some countries, amid high inflation rates.

Efforts to diversify fiscal revenue sources in the GCC countries continued. Oman introduced a value added tax with a 5% rate in April 2021, with Kuwait and Qatar expected to follow in the near future. Bahrain, Saudi Arabia, and the United Arab Emirates had already introduced a 5% value added tax in 2016, in accordance with the GCC Common Value Added Tax Agreement. Saudi Arabia raised the rate to 15% in 2020, and Bahrain is scheduled to raise it to 10% in 2022.

Inflationary pressure from global supply-chain disruptions remained weak in Western Asia in 2021, although supply-chain disruptions remain a risk into 2022. The region's economy is projected to grow by 4.8% in 2022. The expected expiration of the OPEC+ crude production coordination in 2022, will allow oil-exporting countries to increase crude oil production towards pre-pandemic

levels. The resumption of international tourism will support further recovery. Significant downside risks remain from geopolitical tensions and high unemployment, however. High unemployment rates remain among the region's most important socioeconomic concerns and need to be resolved ([The Free Encyclopedia, 2020](#)).

This paper will provide information on how the UAE Government handled the pandemic since its spread in March 2020, by shedding light on the governmental efforts to contain the spread and to maintain continuity of businesses and education.

3. Parameters of UAE Success Story

The meetings held by the UAE Government in May 2020 resulted in the launch of major measures and initiatives that helped to enhance government performance and ensure a speedy recovery of the economy and society, from the effects of the COVID-19 pandemic ([Khaleej Times, 2020](#)). These major measures and initiatives could be summarized as follow:

3.1. Changing the Government Structure

The UAE made changes in its government structure, by merging some federal entities and appointing new ministers of state and CEOs for specialized sectors, to allow for a more agile government and flexible decision-making process. The new ministries included Ministry of Industry and Advanced Technology, which will develop the UAE's industrial sector. Also, a new Minister of State for Digital Economy, Artificial Intelligence and Remote Work Applications was appointed.

3.2. Closing down Customers' Happiness Centers

With movement being restricted and people having to maintain physical distance between them, the UAE Government closed down several customers' happiness centers and moved the service centers to digital platforms such as websites and apps.

Thus, recognizing the role of Information and Communications Technology (ICT) amid the pandemic and the role of digital transformation in maintaining the continuity of businesses and learning, the UAE Government launched a Strategy for Government Services which aimed that all its services will be accessible from anywhere, any time by the year 2023. It also appointed a Head of the UAE Digital Government, for a comprehensive digital transformation of the UAE.

3.3. Forming a National COVID-19 Crisis Recovery Committee

Formed with representatives of several ministries, departments and public companies, the key mandate of the UAE's National COVID-19 Crisis Recovery Management and Governance Committee was to lead the country's economic recovery post the pandemic. The Committee will develop a strategic plan and identify

key performance indicators for the post-COVID-19 phase for targeted sectors to gauge the performance of the entities concerned with returning to normalcy.

3.4. The UAE's Post COVID-19 Virtual Meetings

The UAE Government held virtual meetings on May 2020 to assess the country's status of the post the pandemic. The meetings were attended by ministers, secretaries-general of executive councils and officials from over 100 federal and local government authorities. The aim of the meetings was to develop a strategy for the whole government work system, produce business plans, policies and means to ensure the short, medium, and long-term development of the UAE's government work, and enable the country to tackle economic and social challenges post COVID-19. The strategy would include a review of current ministerial and government structures and focus on a recovery plan. The six main areas of focus for the meeting were health, education, economy, food security, society, and government. Ministers presented their vision and the UAE's readiness for the future of the said sectors in the post COVID-19 stage.

3.5. The UAE's COVID-19 Physical Platforms

3.5.1. Weqaya—For Information and Consultation on COVID-19

It provides latest news, official announcements, and statements on the pandemic of COVID-19. It also contains videos that educate the public on healthy practices and preventive measures to take in light of the spread of COVID-19. The public can also send in their queries relating to their health around COVID-19 and get answers from medical experts.

3.5.2. Government Services Around-the-Clock

Get all eservices of the UAE Government around-the-clock from one platform. Whether you are using a desktop, a laptop, or a smart device, you will be able to get the service you need, at the time you want. About 34 entities provide their services through the one-stop-shop platform.

3.5.3. COVID-19 News

Public can read the latest news coverage and updates about the novel coronavirus, COVID-19 on the website of the UAE's official News Agency, Emirates News Agency (WAM). WAM has allocated a separate section to cover all national and global updates related to COVID-19.

3.5.4. Stay Home and Shop Online

In an effort to help people stay home to curb the spread of COVID-19, Telecommunications Regulatory Authority has compiled a list of online shopping applications. These apps will help public get essential supplies, food, and medicine without leaving their home.

3.5.5. UAE COVID-19 Updates

National Emergency Crisis and Disaster Management Authority (NECMA) is

the federal entity responsible for the safety of the lives of all citizens and residents during a crisis in the UAE. Stay informed about the UAE's current situation in view of COVID-19. Find latest statistics and news about confirmed and recovered cases and the UAE's measures...

3.5.6. The Green Pass System

The "Green Pass" system limits access to public places to those with a "green" status on their Al Hosn app. Their durations of the "green" status depend on the completion of their vaccination and validity of their RT-PCR test result.

Under the Green Pass system, only those individuals whose status is "green" on the Al Hosn app, will be permitted to enter public places. The aim of the protocol is to ease restrictions caused by the COVID-19 pandemic and enhance safe movement and tourism in the country.

There are six categories of "green" status on the Al Hosn app, depending on the completion of the vaccination and validity of the RT-PCR test result. The six categories are:

- 1) Green for 30 days—For individuals who are vaccinated having received their second dose at least 28 days
- 2) Green for 14 days—For individuals who are vaccinated having received their second dose less than 28 days earlier
- 3) Green for 7 days—For individuals who have received their first dose and are waiting for their second dose appointment,
- 4) Green for 7 days—For individuals with certificates for exemption from taking the vaccine against COVID-19,
- 5) Green for 3 days—For individuals who have received their first dose and have exceeded the gap to receive their second dose by 48 days or more,
- 6) Green for 3 days—For individuals who are not vaccinated, but do not have vaccine exemptions.

3.5.7. Virtual Doctor for COVID-19

A doctor for every citizen Service, was launched in December 2019, as a smart service. This service, avails free consultation through voice and video calls, 24/7. The service covers initial consultation and follow-ups, with certified physicians. The physician can request for laboratory and radiology tests and issue electronic prescriptions. The service allows people to receive healthcare at their own homes, without visiting a hospital or clinic physically. The app has a tool for examining symptoms, diagnosing non-emergency cases, booking appointments, and getting tele-consultations with doctors via voice or video calls or text messages.

3.5.8. National COVID-19 Crisis Recovery Management and Governance Committee

The National COVID-19 Crisis Recovery Management and Governance Committee is mandated to ensure efficient recovery from the COVID-19 crisis by leveraging the resources required for business continuity, develop proactive sup-

port programs and a strategic plan to gauge the performance of the entities concerned with returning to normalcy, and identify the financial and economic resources required for supporting the recovery phase. The Supreme Committee for COVID-19 Crisis Management formed the National COVID-19 Crisis Recovery Management and Governance Committee in line with the UAE Government's plan and increased efforts to combat COVID-19 (Kumar, 2020).

The new committee includes members from several ministries, departments, and public companies and is mandated to:

- 1) Ensure efficient recovery from the COVID-19 crisis by leveraging the resources required for business continuity;
- 2) Develop proactive support programs for various establishments by identifying their roles, responsibilities, and key strategic and operational performance indicators with a view to ensuring a safe return to normalcy;
- 3) Develop a strategic plan and identify key performance indicators for the post-COVID-19 phase for targeted sectors to gauge the performance of the entities concerned with returning to normalcy;
- 4) Establish an electronic link for digital indicator-based statistics;
- 5) Identify the financial and economic resources required for supporting the recovery phase.

3.5.9. The UAE's COVID-19 Online Platforms

The UAE Government launched several websites that provide news and information about COVID-19. The websites aim to keep the public well-informed about the health and safety situation in the UAE and provide tips on staying safe from COVID-19.

These platforms comprise:

COVID-19 Information Centre, which is launched by Ministry of Health and Prevention, titled, "Your Health, is Our Priority" to publish information about COVID-19, its prevention and treatment. It also has a database of recommendations, precautions, and guidelines from World Health Organization (WHO).

It also provides answers to frequently asked questions (FAQs) about COVID-19 in five languages: Arabic, Chinese, English, Farsi, and Urdu. There is a link to interact with the "Virtual Doctor", through a **chatbot** that assesses the health condition of the enquirer based on the answers it receives. If the chatbot deduces that the enquirer may have COVID-19, it will connect him/her to a doctor through the same service.

Weqaya—for information and consultation on COVID-19

It provides latest news, official announcements, and statements on the pandemic of COVID-19. It also contains videos that educate the public on healthy practices and preventive measures to take in light of the spread of COVID-19. Public can also send their queries and concerns relating to their health around COVID-19 and get answers from medical experts.

COVID-19 news: the Emirates News Agency-WAM, the UAE's official news agency, has allocated a separate section to cover all national and global updates related to COVID-19.

Abu Dhabi Department of Health online platform, is an official website to keep the public informed about the coronavirus outbreak. The platform includes interactive features, updates from official sources, and answers in English and Arabic to queries related to the coronavirus through an Artificial Intelligence chatbot.

NCEMA COVID-19 Updates is a federal entity responsible for the safety of the lives of all citizens and residents during a crisis in the UAE. It helps public to stay informed about the UAE's current situation in view of COVID-19, and to find latest statistics and news about confirmed and recovered cases and the UAE's measures to curb further spread.

4. The Uniqueness of COVID-19 Tests in the UAE

The UAE uses RT-PCR, antibody tests (also known as serology tests) and Laser-based Diffractive Phase Interferometry (DPI) technology to detect COVID-19. Additionally, Department of Health-Abu Dhabi conducts antigen test, RT-LAMP test (Reverse Transcription LAMP) and saliva test.

4.1. Facilities for Testing Covid-19

RT-PCR tests are conducted at several government and private clinics and hospitals. The facilities where testing for COVID-19 can be done are:

- 1) Ministry of Health and Prevention (MoHaP)
- 2) Department of Health-Abu Dhabi (DoH)
- 3) Abu Dhabi Health Services
- 4) Company (SEHA)
- 5) Dubai Health Authority (DHA)
- 6) Sharjah Health Authority.

The DPI laser test and RT-PCR test can be done at SEHA's drive-through centers, after booking an appointment through the SEHA app available on Google Play and App Store.

The disabled People, can get tested at home under the National Home Testing Program for disabled People, or they can call 8001717 to book an appointment for RT-PCR test for COVID-19.

4.2. Types of Tests in the UAE for Detecting COVID-19

The UAE conducts the following types of tests to detect COVID-19 in people:

1) RT-PCR (Reverse Transcription Polymerase Chain Reaction) test—RT-PCR test is considered a standard for diagnosing COVID-19 in the UAE. The screening is conducted by assessing a nasal swab. This method is a real-time assessment to detect SARS-CoV-2 genetic material or RNA from a person's upper and lower respiratory specimens.

2) Antibody tests (also known as serology tests)—According to Centers for

Disease Control and Prevention-CDC, antibody or serology tests look for antibodies in a person's blood to determine if he had a past infection with the virus that causes COVID-19. Antibody tests provide useful information for treating the COVID-19, analyzing its spread, and potential implications for human resource planning.

3) Laser-based DPI technology (Diffractive Phase Interferometry)—In this type of test, laser technology is used to examine blood samples for detecting the virus. It allows the health authorities to carry out large-scale screening within a few seconds to detect suspected cases of infections before they undergo a Polymerase Chain Reaction (PCR) swab test. It serves as a first step to detect suspected cases of infections before they undergo a PCR test. It is user-friendly, non-invasive and low-cost.

In addition, Department of Health—Abu Dhabi conducts the following three additional COVID-19 tests:

1) Antigen test—The Antigen test detects the presence of antibodies that are produced by COVID-19. A nasal swab sample is collected and labelled with a dye. Infections can be determined within 20 minutes.

2) The RT-LAMP test (Reverse Transcription LAMP)—This test allows for a quicker analysis as compared to the PCR test. It is conducted by collecting a nasal swab and placing it under equal-tempered conditions. Results are generated within an hour.

3) The saliva test—The saliva test is used to detect infection in children aged between 3 and 16 years, if collection of nasal swabs is not possible. Dubai Health Authority (DHA) also approved the use of saliva test among children.

4.3. The Disabled COVID-19 Home Testing Program

There are various initiatives that make it easy to care for the disabled during the pandemic of COVID-19, by educating the community members about their requirements for safety and well-being during the COVID-19 pandemic.

The UAE launched the National Home Testing Program for the Disabled, who are unable to move normally or who have difficulty communicating with others, or unable to reach testing centers easily.

This program supports and complements the efforts of the drive-through testing facility for COVID-19 and other accredited testing centers nationwide, to ensure all segments of the community have adequate access to testing facilities.

5. Travel Requirements

5.1. Travel from UAE Requirements

Travelers from the UAE need to undergo an RT-PCR test for COVID-19 only if required by the destination country. However, as of 19 April 2022, UAE nationals who are at least 18 years old, may travel if they meet one of the following requirements:

- 1) Completed one dose of an approved vaccine and a period of one month has

not lapsed from the date of the vaccination and the date of travel, or

2) Completed two doses of an approved vaccine or

3) Present a valid negative result of an RT-PCR test for COVID-19 if not vaccinated. The test result must have been issued within 48 hours from the time of sample collection and the time of boarding the aircraft. In addition, it must be issued by an approved health service provider and contain a QR code.

Besides, UAE citizens are exempted from the above specified travel conditions if they are:

1) Medically exempt from taking the vaccine or

2) Required to travel for humanitarian matters or

3) Traveling for medical and treatment purposes.

5.2. Travel to UAE Requirements

Vaccinated travelers to the UAE are not required to present a negative result of RT-PCR test for COVID-19 at the airport of departure. However, those who are not vaccinated must either present a valid, negative result of an RT-PCR test conducted within 48 hours before arrival or a recovery certificate (containing a QR code) from COVID-19 issued within 30 days before departure if they were infected with the virus.

The rules for international travelers as of 26 February 2022, which apply at the airport of departure for all international travelers to the UAE, are as follow:

1) Those who are vaccinated against COVID-19, must present the vaccination certificate containing a QR code. They are not required to present a negative result of RT-PCR test for COVID-19 at the airport of departure.

2) Those who are not vaccinated against COVID-19, can either present a valid, negative result of an RT-PCR test conducted within 48 hours before arrival, or present a recovery certificate (containing a QR code) from COVID-19 issued within 30 days before departure if they were previously infected with the virus.

5.3. Transiting through the UAE's Airports Requirements

Transit through the UAE's airports is subject to rules and restrictions updated as per the latest health situation. In June 2020, the UAE government opened its airports for connecting flights. According to General Civil Aviation Authority, a flight carrying passengers is not permitted unless the passengers are in transit through the UAE or transfer from the UAE. The passengers must be carried by an air operator in accordance with public health measures titled "Protocol for transit and transfer operations in UAE airports" endorsed by National Emergency Crisis and Disaster Management Authority (NCEMA).

6. Conclusion

Through the management of Covid-19, the UAE has been very effective in handling the aftermath of crises and emergencies. Domestically, the UAE has taken a series of important preventive and precautionary measures that have streng-

thened the health and food security of all members of the society and ensured that individuals and institutions take the responsibility to collectively confront this pandemic. The UAE has also played an active international role in strengthening efforts to confront this pandemic. This was done by assisting countries gravely affected by the virus, the provision of assistance to the WHO to perform its role in an optimal manner, or through its continuous coordination with major powers to ensure international cooperation. These efforts demonstrate the ethical responsibility the UAE always takes, which stems from its belief in international cooperation and solidarity to counter global crises that pose a threat to all humanity.

The UAE has employed varied mechanisms and procedures in its comprehensive response to Covid-19 pandemic, which is evident in the success of the country in managing this crisis. The UAE's success also demonstrates the flexibility of its institutions and the ability of its authorities to do effective and efficient crisis management, which operates at various levels:

6.1. UAE COVID-19 Preparedness

- The UAE leads in top rankings for highest rate of vaccination.
- The UAE has advanced to 8th position globally in Bloomberg index of the most resilient countries that managed the coronavirus (COVID-19) pandemic.
- The UAE government executed a detailed awareness campaign that targeted different groups of the community and provided a daily update about the status of the disease locally and internationally.
- UAE adopted the mandatory use of face masks in March 2020, well ahead of the WHO recommending this policy.
- Smart technology platform was effectively used in the UAE to combat COVID-19. For instance, making available “Doctor for every citizen” app, providing COVID-19 related information and services to everyone and utilizing the “Weqaya” platform, to enhance awareness among the public on the ongoing COVID-19 public health crisis.
- Introducing the ALHOSN UAE app is the official integrated digital platform for COVID-19 tests in the UAE through which individuals can receive COVID-19 test results on their smartphones.
- Establishing the coronavirus helpline, as well as a dedicating hotline for mental health counselling to respond to psychological concerns and anxiety of people during the pandemic.
- The government of the UAE made remarkable progress in testing for the SARS-CoV-2 virus and in the management of cases.
- In the UAE, testing centers equipped with the most advanced testing systems, techniques, and globally accredited health care teams, were promptly provided in most health care facilities across the nation.
- Free tests were provided to Emiratis, domestic workers in Emirati house-

holds, disabled people, pregnant women, residents aged over 50 years, people with chronic diseases, those with coronavirus symptoms and all contacts of the coronavirus patients.

- Mass testing campaigns conducted in crowded pockets where there was high risk of transmission, were very effective in breaking the chain of transmission.
- Field hospitals, that can be expanded up to 3000 beds, were set up in the UAE to ease the pressure on city-based hospitals and to aid faster response to COVID-19.
- Setting up of quarantine facilities with a capacity up to 10,000 patients.
- Active surveillance was established to identify Severe Acute Respiratory Infections (SARI) admitted to different hospitals and are required to be tested for COVID-19.
- Conduct of training workshops, to educate health care professionals about the disease diagnosis, reporting, and management to strengthen epidemiological surveillance and enhancing prompt reporting of all suspected COVID-19 cases.
- The UAE is adopting the most demanding standard of two meters, double the distance recommended by the World Health Organization. This had played a significant role in curbing the infections.
- The UAE was one of the first countries to efficiently adapt remote learning in all private and government schools. The federal and local governments in the UAE adopted a remote working system to ensure the health and safety of its employees and customers. The government also issued orders to temporarily stop the distribution of all print newspapers, magazines, and marketing material to avoid transmission of virus by contact.
- The UAE Government suspended all close gatherings and sports activities, commercial centers, shopping malls along with fish, meat, and vegetables markets were closed except for essential commodities.
- To contain the virus and to restrict entry of people into the UAE, which is an essential precautionary measure to curb the spread, the UAE suspended visas to all foreigners and all inbound and outbound passenger flights were cancelled. The government announced enforcement of penalties to violators who threaten public health.
- The UAE leads in global COVID-19 testing, the number of tests conducted per 1000 people is highest in the UAE compared to other developed nations.

6.2. UAE's Management, Lessons, and Dimensions

Since it started in China and spread across the world, the Covid-19 has turned into a massive crisis with negative impacts for worldwide countries. The virus widely spread by the ease and speed of the mechanisms of globalization that facilitated communication and transportation and mobility of people for long distances and across borders. This crisis caught all by surprise, as medical and health

facilities like hospitals, health centers, medical and nursing staff, prevention, and sterilization tools, etc, seemed ill-prepared in many countries, making it difficult for them to deal with a large number of infections, and impeding their ability to support the victims thereby exacerbating human losses.

It also exposed the limited capacity of individual countries in tackling the virus using their resources, no matter how sophisticated and developed their healthcare sector may have been. Moreover, it has highlighted the importance of community awareness, discipline among the population and cooperation with governments.

Finally, the UAE has employed varied mechanisms and procedures in its comprehensive response to Covid-19 pandemic, which is evident in the success of the country in managing this crisis. The UAE's success also demonstrates the flexibility of its institutions and the ability of its authorities to do effective and efficient crisis management, which operates at various levels, namely Preventive level, Political level, and Security level.

6.3. UAE's Summary of Results

The COVID-19 pandemic affected countries across the world, where there are wide variations on how each country handled the crisis. Thus, as a success story, it becomes imperative to understand the significance of UAE efforts in handling the crisis from a public health perspective. The UAE's efficient combat of COVID-19 crisis was carried out under six priority areas of work.

The emergency response system of the UAE was managed by National Crisis and Emergency Management Authority (NCEMA) and the UAE government was vigilant in issuing the first alert of the new coronavirus outbreak, even before it was declared by WHO as a public health emergency of international concern. The UAE had a comprehensive, government-funded health service as well as private health facilities which delivered a high standard of health care to the population. During this pandemic, the entire health care system was prepared and alerted with protocols in place for efficient handling of the crisis.

The UAE adopted the mandatory use of face masks in March 2020, well ahead of the WHO recommending this policy. Smart technology platform was effectively used in the UAE to combat COVID-19, for example, a chatbot service was established by Ministry of Health and Prevention, called "Virtual doctor for COVID-19". The "Doctor for every citizen" app was also made available for people for providing COVID-19 related information and services. The "Weqaya" platform, was utilized to enhance awareness among the public on the ongoing COVID-19 public health crisis. The coronavirus helpline was established by the Ministry of Health and Prevention, as well as a dedicated hotline for mental health counselling to respond to psychological concerns and anxiety of people during the pandemic.

In the UAE, testing services were promptly provided in most health care facilities across the nation and for the ease of testing, drive through testing centers

were established by the Department of Health. These centers were equipped with the most advanced testing systems, techniques, and globally accredited health care teams. Moreover, free tests were provided to almost all population. The UAE adopted the most demanding standard of two meters, double the distance recommended by the World Health Organization. This had played a significant role in curbing the infections.

The UAE was one of the first countries to efficiently adapt remote learning in all private and government schools. The federal and local governments in the UAE adopted a remote working system to ensure the health and safety of its employees and customers. The government also issued orders to temporarily stop the distribution of all print newspapers, magazines, and marketing material to avoid transmission of virus by contact. The UAE Government suspended all close gatherings and sports activities, commercial centers, shopping malls along with fish, meat, and vegetables markets were closed except for essential commodities. To contain the virus and to restrict entry of people into the UAE, which is an essential precautionary measure to curb the spread, the UAE suspended visas to all foreigners and all inbound and outbound passenger flights were cancelled. The government announced enforcement of penalties to violators who threaten public health.

The UAE leads in top rankings for highest rate of vaccination. The number of tests conducted per 1000 people is highest in the UAE compared to other developed nations. Also, its case fatality percentage is lower compared to other developed countries.

The final priority work area for preparedness in dealing with this pandemic was to develop all-of-society and business continuity plans. The UAE government was already leading the way in restarting business and announced a two-phase recovery plan to rebuild the economy. The two biggest economies in the UAE, Dubai and Abu Dhabi have taken a holistic approach to economic revival. They have made decisions to relieve troubled businesses facing administrative penalties along with the stimulus package of US\$79 billion for private sector in the first phase and in the next phase there is a long-term stimulus plan to speed up the recovery and encourage investments in digital economy like 5G networks and Artificial Intelligence. The UAE government has released guidelines for Business continuity for UAE organizations.

The UAE moves forward with successfully reopening the economy and addressing the newer challenges of the pandemic like the newer variants of the virus. The UAE government encouraged research and development of newer technologies with regards to COVID-19 pandemic and aligned to the nation's objectives, that is now integral to the UAE national testing program. Thus, the UAE has been efficient and effective in handling the crisis of COVID-19. It continues to pioneer in health care and serve as a leading example in the Middle East and North Africa, in comprehensively protecting the population and responsibly reopening the economy (Zaki, 2020).

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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