The Novel Coronavirus Disease (COVID-19) Outbreak: The Israeli Experience

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ABSTRACT

Coronaviruses are a large family of viruses that cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS-COV) and Sever Acute Respiratory Syndrome (SARS-COV). The Coronavirus Disease 2019 (COVID-19) refers to the cluster of viral pneumonia cases which first started occurring in Wuhan city, which has a population of 11 million people and is the largest city in Hubei province in central China, since December 2019. On Tuesday, the 11th of February 2020, the WHO officially named the disease caused by the new coronavirus "COVID-19", with more than 43,000 patients, and more than 1,000 deaths cases were reported in China. The Government of Israel, the Prime Minister's Office in collaboration with the Ministry of Health, the Ministry of Defense and the Treasury, have decided to take early first steps to prevent the spread of the virus in the Country. The first step was banning Chinese tourists from entering the country via Ben-Gurion International Airport, and this was only the beginning, as afterwards the decision was made to close all border crossings. The idea was to reduce the number of entrances to the State of Israel as much as possible, and every citizen coming back from countries such as China and European countries was directly sent to home quarantine for a period of 14 days.

Coronaviruses

Coronaviruses are a large family of viruses that cause illnesses ranging from the common cold to more severe diseases, such as Middle East Respiratory Syndrome (MERS-COV) and Severe Acute Respiratory Syndrome (SARS-COV). They are transmitted between animals and humans, with SARAS-COV transmitted from civet cats to humans and MERS-COV from camels to humans [1].

The novel coronavirus 2019 (COVID-19)

COVID-19 refers to the cluster of viral pneumonia cases which first occurred in Wuhan city in December 2019, the largest city in Hubei province in central China with a population of 11 million people. According to investigations conducted by the Mainland health authorities, the novel coronavirus was found to be the causative agent [2]. COVID-19

is genetically related to SARS-COV, which caused a global epidemic with 8,096 confirmed cases in more than 25 countries in 2002–2003 [3].

Initially, 27 cases were reported on 31st December 2019. The patients were identified by local hospitals using a surveillance mechanism for "pneumonia of unknown aetiology" that was established in the wake of the 2003 SARS outbreak to allow timely identification of novel pathogens, such as 2019-nCoV. Recently, infections have been identified in other Chinese cities and more than a dozen countries around the world [4]. On 11th January 2020, the number increased to 41, with seven severe cases and one death. The geographical origin of the spread of the virus was linked to the Huanan Seafood Wholesale Market, which was subsequently reported by journalists to be selling freshly slaughtered game animals [5]. In addition to seafood, the market also sold live cats, dogs, snakes and marmots. A notice posted outside the Huanan Seafood Market said that according to regulations for public health emergencies, the Wuhan Municipal Health Commission's Hanjiang District Bureau had decided to suspend the seafood market's operations to improve its environment. On Tuesday 14th of that month, videos uploaded to the internet showed masked, white-clad medical workers spraying sanitiser in the market [6]. On the 20th January 2019, 282 laboratory-confirmed human cases were reported, with confirmed cases in travellers from Wuhan announced on the 13th and 17th January in Thailand, on the 15th January in Japan, and on 19th January in South Korea [7]. As of 10th March 2020, 72,314 cases reviewed by the Chinese Center for Disease Control and Prevention showed that less than 1% were in children younger than 10 years [8].

Symptoms

The symptoms of coronavirus infection are similar to those of the common flu, typically appearing 2–14 days after exposure to the virus [9]:

› Fever,
› Cough,
› Shortness of breath.

The virus can lead to severe pneumonia and severe respiratory symptoms, kidney failure and death.

The spread of COVID-19

SARS-CoV-2 can spread from person to person, with the virus transmitted between people who are in close contact, within about six feet, through respiratory droplets produced when an infected person coughs or sneezes. Additionally, it can spread when a person comes into contact with infected surfaces or objects contaminated by the virus, then touches their mouth, nose, or eyes [10].

Fortunately, SARS-CoV-2 is highly sensitive to all common cleaning and disinfecting agents, so increasing the frequency of cleaning using disinfectant, including hand sanitisers, is effective in combating the virus. There is no specific protocol for cleaning to eradicate the coronavirus, but the Centers for Diseases Control and Prevention issued guidelines for the daily cleaning of surfaces, especially those touched by people with suspected or confirmed coronavirus disease, recommending that high-touch surfaces are disinfected on a daily basis [11].

Coronavirus pandemic

On Thursday 11th February 2020, WHO officially named the disease caused by the new coronavirus "COVID-19". On that day, the number of reported cases was over 43,000 patients, with more than 1,000 deaths. Most of the patients diagnosed were from China, only 400 cases from other countries. Only one day later, the number of patients escalated sharply, reaching over sixty thousand, with 1,300 deaths, all from China, except for one death recorded outside China.

This novel coronavirus continued to spread globally, with 219 patients identified on the Diamond Princess cruise ship at Yokohama port near Tokyo, Japan on Thursday 13th February [12]. Among the passengers, 16 were Israeli civilians, three of them were diagnosed with coronavirus. These three patients had mild symptoms but were transferred to a hospital in Japan for further treatment. The Israeli Ministry of Foreign Affairs and the Israeli Ministry of Health began to take steps to return the citizens to Israel to continue their follow up. On 19th February 2020, the siege on the Diamond Princess cruise ship ended, with a total of 621 cases of coronavirus and six deaths [12]. The uninfected Israeli citizens were flown to Israel, where they were immediately transferred to home to quarantine for a period of 14 days [13]. One day after the arrival of the uninfected Israeli citizens, the Israeli Ministry of Health imposed strict guidelines on quarantine and banning tour-
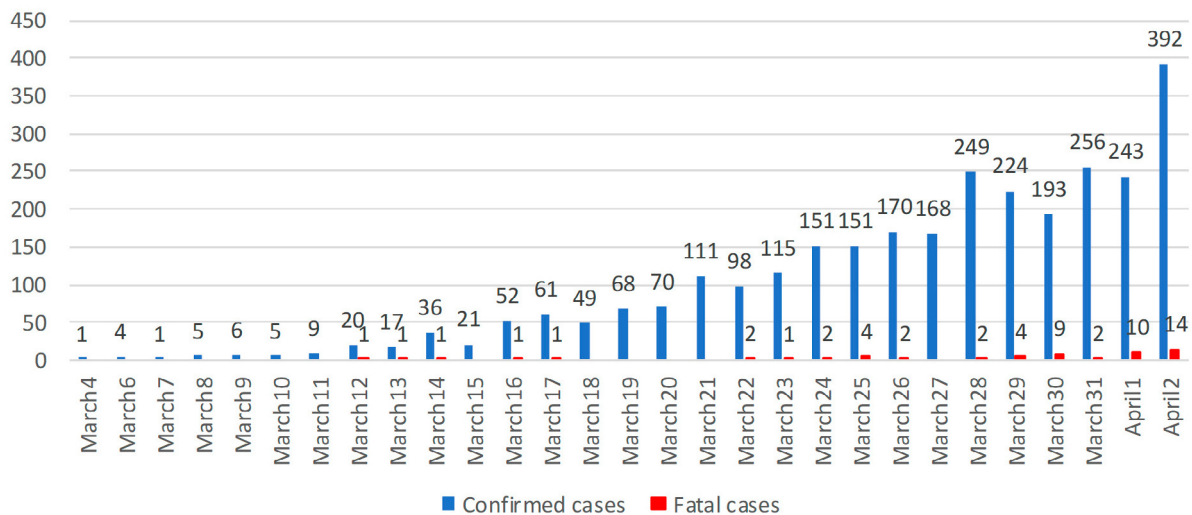
Figure 1. Number of new COVID-19 cases confirmed in Poland as of April 2, 2020. [18]

ists, with any Israeli citizen returning from South Korea and Japan to stay in home quarantine for 14 days. The Israeli Ministry of Foreign Affairs issued a travel warning to these countries, in addition to Thailand [13].

Towards the end of February, the largest outbreaks outside China were reported in South Korea, with more than 200 cases reported on 21st February. One day later, the number of cases in South Korea continued to escalate, 430 cases of coronavirus were identified and according to the WHO daily update, 77,809 cases and 2,372 deaths in 31 countries were reported. In the period from the 8th until the 18th February 2020, a group of nine tourists from South Korean visited the State of Israel and were diagnosed with coronavirus immediately after returning to their country. The Israeli Ministry of Health issued a warning to all people who came into contact with those tourists. Additionally, the Ministry of Health published a map showing the locations that these tourists visited, with 30 high school students who were in one of the locations visited by the tourists immediately sent to home quarantine for 14 days.

Despite its global spread, the WHO did not rush to declare coronavirus as a global pandemic. On Monday 25th of February, and according to Italian reports, the number of coronavirus cases in Italy was 2,019 with six deaths, which made it the most serious outbreak in Europe. Israel issued a travel warning to Israeli citizens travelling to Italy, especially the northern district, with anyone returning

from Italy being immediately sent to home quarantine for 14 days [13].

In Israel, the first coronavirus case was reported in a citizen who returned from the Diamond Princess cruise ship, which increased to four cases, and the patient was placed in home solation. Simultaneously, global news channels, including Iran, Oman, Iraq, Kuwait, Afghanistan and Bahrain, continued to report the vast spread of the virus [13]. In response, the Israeli Ministry of Health issued another travel warning to European countries and all countries of the world in general. Citizens were advised to avoid trips to conferences and gatherings in which large numbers of people from different countries came together, as well as avoiding and cancelling any international conferences in Israel. On that same day (February 25th), it was reported that one Israeli citizen who was infected on the cruise ship and hospitalised in Japan had fully recovered from the virus and had returned to Israel. The rest of Israeli citizens in Japan were also in good shape and were later released on 28th February [13].

On Tuesday 25th February 2020, there were reports of the virus spread to other countries, including Croatia, Switzerland, Vietnam, Spain, Austria, Denmark and Estonia. The second Israeli citizen with coronavirus arrived from northern Italy and on that day, the number of infected people globally rose to 80,377 with 2,707 deaths. Israeli flight companies stopped all flights to Tokyo, Italy, Thailand and Hong Kong. As the virus con-
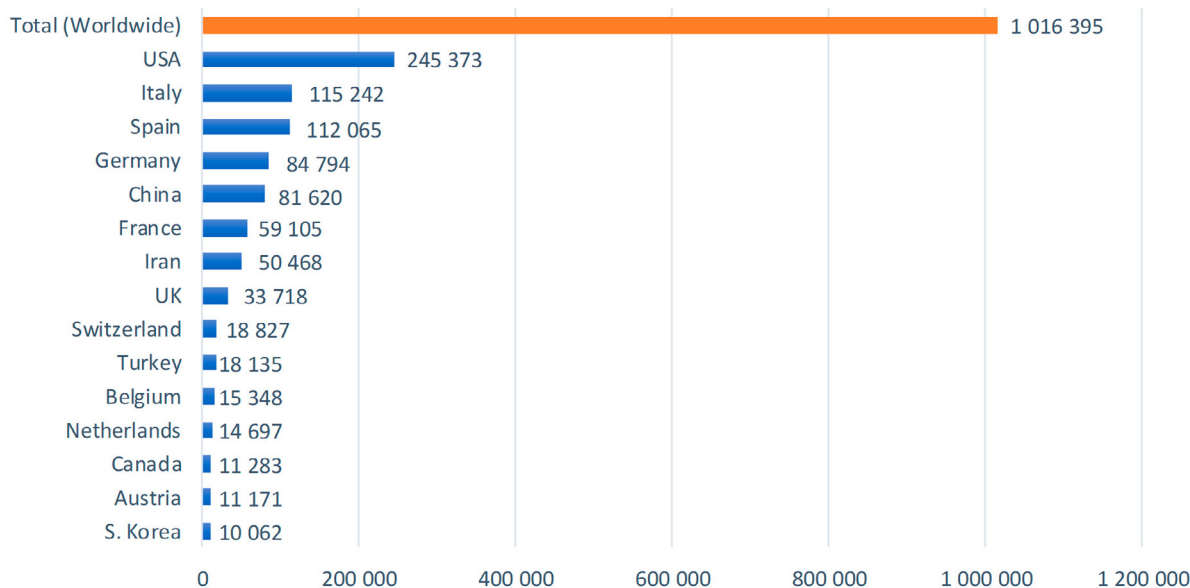
Total (Worldwide) — 1 016 395
USA — 245 373
Italy — 115 242
Spain — 112 065
Germany — 84 794
China — 81 620
France — 59 105
Iran — 50 468
UK — 33 718
Switzerland — 18 827
Turkey — 18 135
Belgium — 15 348
Netherlands — 14 697
Canada — 11 283
Austria — 11 171
S. Korea — 10 062

0   200 000   400 000   600 000   800 000   1 000 000   1 200 000

Figure 2. Number of new COVID-19 cases worldwide as of April 3, 2020, by country. [19]

tinued to spread to 59 countries, new cases were reported in seven other countries, Azerbaijan, Belarus, Lithuania, Iceland, Mexico, New-Zeeland and Nigeria. In the Middle East, Iran had the most serious outbreak, whereas Italy was the most seriously affected in Europe.

On 26th February 2020, there were seven cases of coronavirus in Israel, three infected from the Diamond Princess cruise ship, three others who returned from Italy, and one case (wife of one of the patients) that were infected in the country. The Israeli Ministry of Health imposed stricter instructions and published a list of places in which patients were to stay from the moment of their return to Israel until the onset of symptoms. Furthermore, the Ministry of Health warned that anyone close to the patients (about 2 metres away from the patients), or those who had been in the same area as the patients for 15 minutes, must stay in home quarantine and report immediately to the National Emergency Service, the Magen-David Adom (MDA). If within 14 days of contact with a diagnosed patient, an individual developed signs of fever of 38 degrees or over, cough, difficulty breathing or other respiratory symptoms appears, then they must call the MDA and not go to any clinics or hospitals.

On Tuesday 3rd March 2020, the Israeli Ministry of Health continued to issue travel warnings to various countries around the world, any per-

son returning from Spain, Switzerland, France and Austria were ordered to stay in home quarantine for 14 days. People who returned from other countries were instructed not to attend any public events. The Ministry of Health published instructions for maintaining personal hygiene, making sure to wash hands with soap and alcohol and to avoid shaking hands [13]. Coronavirus continued to spread and on Sunday 8th March 2020, there were 107,933 infected patients with 3,664 deaths documented in at least 104 countries [13]. Sixteen days after the virus outbreak in Italy, which was the most affected country in Europe, there were 6,000 cases of coronavirus, 570 of whom were seriously ill. The Italian government decided to take an unusual emergency measure and imposed full closure in the northern part of the country in an effort to reduce the spread of the virus. The closure affected around 16 million Italians living in the 14 counties in the north of Italy and included schools, universities, museums, cultural centres and sports events [13].

In the Palestinian Territories, the authorities decided to ban foreign tourists for two weeks and to close churches and mosques in Bethlehem after 19 cases of COVID-19 were diagnosed. In addition, 13 Americans tourists were placed in isolation at a hotel in Bethlehem city. With the evolving spread of the virus worldwide, the Israeli Ministry of Health continued to issue more instructions, any citizen
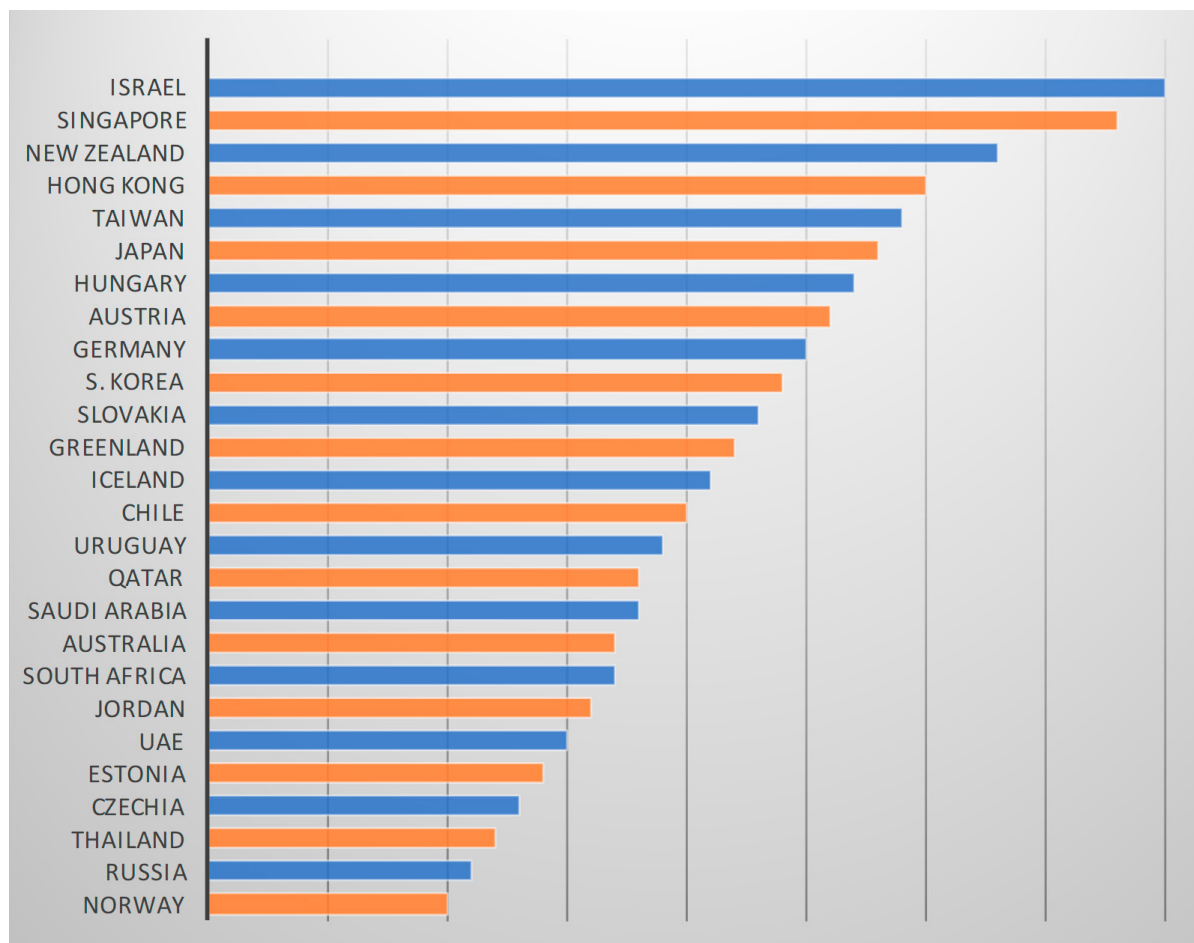
Figure 3. Coronavirus health Safety Country Ranking 2 April 2020, by country [26]

who returned from Australia or Taiwan with signs of a sore throat, cough, or fever were required to be immediately checked by the Emergency Response Services of MDA located in an incoming passenger lane of the transit hall at Tel-Aviv International Airport "Ben-Gurion". Moreover, Israel closed its land borders with Egypt, and the international flights terminal, Terminal 1, at Ben-Gurion Airport was also closed to all international flights [13]. The Israeli Ministry of National Security announced that it was considering declaring a national state of emergency to give the police additional authority to close certain areas as the virus continued to spread. The Israeli Prime Minister Benjamin-Netanyahu and US Vice president Mike Pence discussed the imposition of a potential closure order for people arriving in Israel from several destinations in the USA.

On Wednesday 11th March 2020, WHO announced the COVID-19 outbreak as a global pandemic, the first time since the announcement of the H1N1 pandemic in 2009. On that day, the Israeli Ministry of Health updated the number of corona patients in Israel to 77, including a nine-year-old child. A total of 465 elementary school students from south Tel-Aviv and about 50 educators and school staff were placed in home quarantine after being in contact with the nine-year-old student who was diagnosed with the novel coronavirus [13]. The Israeli Ministry of Health continued publishing new guidelines for Israeli citizens, including banning any gathering of more than 50 people, such as wedding ceremonies, crowds at sports events, as well as shopping malls and stores.

In Israel, the updated number of individuals diagnosed with COVID-19 by the 13th March increased to 126, with 949 doctors in quarantine and unable to work, as well as 635 nurses and 171 paramedics also in solitary confinement. Some were exposed to patients with symptoms as part of their work, so also likely to become ill. The decision was made to close most of the educational system as a preventive measure [13].

As of the 19th March 2020, the total number of people diagnosed with COVID-19 globally

reached 220,229, with 9,000 deaths and 85,769 people who had recovered. In Israel, the number of coronavirus patients was 529, with 14 who had recovered from the illness. On the morning of 22nd March 2020, Palestinian and Israeli news channels reported the first two cases of COVID-19 in the Gaza Strip, people who had arrived from Pakistan and tested positive for COVID-19. In the Palestinian Territories, the total number of infected people reached 59 in both the West Bank and Gaza Strip according to official Palestinian Authority reports [14]. Globally, there was a rise in numbers diagnosed in Italy, Spain, the United States, Iran, France, Germany, Switzerland and the United Kingdom, with the virus spreading to other countries including Papua New Guinea and East Timor in the Pacific, as well as countries in several regions of Africa, Niger, Eritrea, Uganda, Fun Verde, Angola and Madagascar [13].

In Poland, the first confirmed case of COVID-19 was reported by Poland's Minister of Health on Wednesday 4th March 2020 [15], after which, cases were confirmed in seven other voivodeships throughout Poland during the period from the 5th to the 9th March 2020 [16]. Upon the emergence of these cases, Poland's Prime Minister announced some new restrictions and decisions, the major decisions included [17]:

› Imposing a limit on the number of people allowed inside a store, up to three people per cash desk. At marketplaces, the limit of people allowed was three customers per sales point, and in post offices, two people per window.
› From 10:00 to 12:00, stores and service points were allowed to receive and serve only people over 65 (in the remaining time, shops and service points were available to everyone, including seniors).
› All customers must shop while wearing disposable gloves.
› Large-space construction stores will be closed during weekends.
› Pedestrians are to maintain a distance of at least two metres between one another. This also applies to families and relatives, except for children under 13 years of age and people with disabilities or those who are unable to move independently.
› Children and adolescents under 18 years of age were not allowed to leave their homes unattended.

› As of the 1st of April 2020, all household members living with a person who was quarantined was automatically quarantined.
› Parks, beaches and boulevards were out of bounds, with city bike rental stores closed.
› Hotels and other accommodation places, in addition to beauty and hair salons, were closed.
› Rehabilitation treatments and massages were suspended, both in public and private facilities, except cases when rehabilitation was absolutely necessary.
› A distance of one and a half metres should be maintained in the workplaces. Additionally, disinfectants should be provided in all workplaces.
› The passenger seat limit also applied to private carriers.
› Any person violating the above regulations was subject to a fine ranging from PLN 5,000 to PLN 30,000.

As of the 2nd 2020, 392 new cases of COVID-19 were confirmed in Poland, thus, the total number of cases in the country since 4th March 2020 increased to 2,946 (2,889 active cases), with over 48 thousand people under epidemiological supervision. According to the Minister of Health, 57 infected patients died, all of whom had underlying health conditions [18].

The Israeli experience

The Government of Israel, the Prime Minister's Office in collaboration with the Ministry of Health, the Ministry of Defence and the Treasury decided to take early steps compared to other countries around the world to prevent the spread of coronavirus. The first step was preventing Chinese tourists from entering the country via Ben-Gurion International Airport, followed by full closure of all borders to reduce the number of entrances to Israel as much as possible. In addition, every citizen who returned to Israel from countries, such as China and Europe, were sent straight home to quarantine for a period of 14 days. Even before the first cases of COVID-19 were identified in Israel, Israeli authorities took preventive measures to prevent its spread. On 23rd January 2020, the Ministry of Health issued guidelines and information in case a person

developed any symptoms related to the disease and instructions on how to deal with such person to protect other individuals in close contact and how to protect medical staff. According to the orders of the Ministry of Health, anyone who had spent the previous two weeks in Wuhan city, China, or had been in contact with a person who was there and develops symptoms of the disease (fever, cough, pneumonia) was required to go to the closest hospital for medical examination. Suspected cases were to be placed in isolation on admission to the medical centre, with all healthcare staff working according to defined protocols to protect them against infection, and were to undergo all types of virus tests. All samples were sent to the Central Laboratory of the Ministry of Health, located in Sheba Tel-Hashomer Medical Center (located near Tel-Aviv), where the lab staff could identify the virus [20].

Actions taken before the border was closed

In all border crossings, information sheets and instructions were posted in different languages (Hebrew, Arabic, Chinese and English) detailing the guidelines for those coming from China. If any passenger reported fever or respiratory symptoms within two weeks prior to their arrival from China or upon arrival, then they were required to contact the first emergency response MDA (the Israeli first emergency response) [21]. Special workstations were installed and staffed in collaboration with the MDA in the transit hall at Ben-Gurion International Airport in Tel-Aviv, and equipped with a special space for isolation before sending a passenger suspected of infection to a hospital emergency room. In the case of a passenger reporting fever or respiratory symptoms while at the airport, the passenger was directed to the MDA station, which included an isolation compound. The MDA continually applied protective measures in accordance with the protocol and guidelines for coping with the SARS-CoV-2 virus outbreak. Upon the arrival of a suspected passenger, MDA staff provided the passenger with a face mask that they must wear, and measured their body temperature measurement. In the event of an emergency evacuation, MDA then transferred the passenger to the hospital in an ambulance containing special isolation equipment in accordance with the protocols of the Israeli Ministry of Health and in cooperation with the hospital to receive the patient.

Home isolation

The Israeli Ministry of Health instructed those returning to the State of Israel from Austria, Italy, Germany, Hong Kong, Japan, Macau, China, Singapore, Spain, France, South Korea, Switzerland and Thailand, or those who have been in close contact with a COVID-19 patient (close contact is defined as a staying less than 2 metres far from a patient for 15 minutes) to stay in home quarantine for a period of 14 days from the date of their departure from these locations. Those who were instructed to go into home quarantine were forbidden from going to public places, educational institutions (universities or schools), workplaces, public transportation, recreational and shopping places, hospitals and clinics [22].

The Ministry of Health published a self-report method which could be completed as follows:
› Reporting using the "Self-Reporting Form on Home Isolation" (electronic form found on the Ministry of Health's website).
› Reporting using the "Form for those who came in contact with a patient" (electronic form).
› Through the dedicated call centre using the number published by the Ministry of Health on its website.

Absence from work was considered as absence due to illness. If no signs of illness appeared, the quarantine ended on the 15th day and individuals could return to work and normal activities. The purpose of the home quarantine was to stop the infection and prevent the spread of the virus in the State of Israel. To do so, every citizen in solitary confinement was required to refrain from conducting any activity or being in public places as well as to ensure the protection of the rest of their family members with they lived with.

In case a citizen developed a fever of over 38 degrees, cough, difficulty in breathing or other respiratory symptoms within 14 days of returning from one of the high-risk destinations, or after close contact with a verified patient, the citizen should call the first emergency response services "MDA" [17]. In this case, the citizen should refrain from attending any hospital clinics and if necessary, a paramedic will be sent to the patient to perform laboratory tests at home (patient's home).

Guidelines for home isolation issued by the Israeli Ministry of Health [23]

On the 19th March 2020, the State of Israel declared a state of emergency and took significant steps to combat the coronavirus outbreak, including disabling transportation lines, closing all educational institutions, including kindergartens, leisure and recreational sites in addition to any non-essential spaces. In his dramatic statement made on that day, the Israeli Prime Minister announced that the government would use the technology used in its war against terrorist organisations to locate corona patients across the state; the courts had approved the use of the technology and the tracking of all citizens of the State of Israel. From the day of infection and the onset of symptoms, the technology would text messages to the phone of any person who had been in contact with a COVID-19 patient, the content of the message was that the recipient of the message must stay in home quarantine for a period of 14 days, also providing some information regarding the disease and its symptoms, including vital phone numbers for the Ministry of Health. This technology was put into use as of Wednesday 18th of March, and according to the Israeli news channels, citizens were already receiving messages on their cell phones. Thus, even those who do not obey instructions, the technology would follow every citizen who violates the isolation or quarantine instructions.

As emergency measures, the Israeli Prime Minister's Office issued the following emergency guidelines for Israeli citizens [24]:

› A person in home isolation should not be allowed to leave home except for transfer to a hospital.
› The person should stay in a separate, well-ventilated room with a closed door, exiting the room when necessary and for a brief time only. When leaving the room, the person must cover their mouth and nose using a face mask.
› The entry of other people into the isolation room should be reduced, with priority to one healthy person without a background of disease that can increase the risk of infection.
› Health-workers should wear face masks and a full suit that includes gloves when contacting anyone in isolation. Contact with body fluids should be avoided, especially oral secretions, airway secretions, urine and faeces of the person in isolation.
› The laundry of the individual in isolation shall be placed in a dedicated bag in the isolation room until the date of washing the laundry. Any disposable products should be disposed of in a designated bag in the room until the time of disposal for external garbage.
› Avoid co-using any items used or accessed by the infected person.
› Reduce presence in public space: citizens cannot leave their home except for one of the following purposes: work, equipping food or medicine, for medical treatment, blood donation, demonstration, sports activity maximum two persons, attending wedding or funeral, helping a person with a medical condition.
› Rules and behaviour in public places: maintain a distance of two metres between one person and the other, while driving a maximum of two passengers in the same car.
› Delivery services: shipment must be placed near the home door.
› Restrict trading activity: the following business locations/stores shall not operate: malls or any shopping centre containing over ten stores, nightclubs, bars, wedding venues, swimming pools, water parks, zoos, safaris, bathhouses, cinemas, museums and all cultural institutions, any business that do not provide medical treatment, national parks, and tourist attractions.
› Restaurants: only for take away services.
› Pharmacies: customers must maintain the recommended distance between each other (2 metres). The maximum number of customers inside a store at any given time should be four customers only.

As of the 2nd April 2020, the total number of confirmed COVID-19 cases in Israel increased to 6,211, with a total of 31 deaths. The Israeli Health Minister, Jacob Litzman, and his wife were diagnosed with COVID-19. The Ministry of Health instructed all Israeli citizens to wear protective face masks when leaving home. The number of people diagnosed globally was 976,249. As in recent days, the United States continued to lead the number of infections with approximately 215,000 people, followed by Italy and Spain. The global death toll was 50,000 people, and the number of recovered cases was 195,000

[13]. Despite the increase in the number of Israeli citizens infected with COVID-19, following the instructions of the Israeli Ministry of Health and the Government, Israel was ranked in first place in the COVID-19 Health Safety Countries Ranking on the Deep Knowledge Group Website [25].

Summary

Up to the date of writing of this article, COVID-19 continues to spread to more countries worldwide, with an increasing number of people infected and rising death toll. There has been global panic, also affecting the stock markets, causing the worst economic losses in 30 years.

The first steps taken in the State of Israel were appropriate, their purpose was only to prevent the spread of the virus among the citizens of the country. The Israeli government was aware that COVID-19 was about to spread to Israel and the Israeli Ministry of Health issued a statement even before the first case was identified noting that "the spread of the virus in the State of Israel is only a matter of time."

Many countries are racing against time to develop a cure and a vaccine for the virus. Meanwhile, the virus will disappear with the arrival of spring and the increased temperature, but scientists believe that there will be a second wave next autumn when the virus will reappear.

Acknowledgements

References

1. Coronavirus. https://www.who.int/health-topics/coronavirus. Accessed 2020 March 6.
2. Coronavirus Disease 2019 (COVID-19). https://www.chp.gov.hk/files/pdf/severe_respiratory_disease_leaflet_en.pdf. Accessed 2020 March 4.
3. Zou L, Ruan F, Huang M, Liang L, Huang H, Hong Z, Yu J, Kang M, Song Y, Xia J, Guo Q, Song T, He J, Yen H, Peiris M, Wu J. SARS-CoV-2 Viral Load in Upper Respiratory Specimens of Infected Patients. New England Journal of Medicine. 2020 03 19;382(12):1177-1179. https://doi.org/10.1056/nejmc2001737
4. Li Q, Guan X, Wu P, Wang X, Zhou L, Tong Y, Ren R, Leung KS, Lau EH, Wong JY, Xing X, Xiang N, Wu Y, Li C, Chen Q, Li D, Liu T, Zhao J, Liu M, Tu W, Chen C, Jin L, Yang R, Wang Q, Zhou S, Wang R, Liu H, Luo Y, Liu Y, Shao G, Li H, Tao Z, Yang Y, Deng Z, Liu B, Ma Z, Zhang Y, Shi G, Lam TT, Wu JT, Gao GF, Cowling BJ, Yang B, Leung GM, Feng Z. Early Transmission Dynamics in Wuhan, China, of Novel Coronavirus–Infected Pneumonia. New England Journal of Medicine. 2020 03 26;382(13):1199-1207. https://doi.org/10.1056/nejmoa2001316
5. Chan JF, Yuan S, Kok K, To KK, Chu H, Yang J, Xing F, Liu J, Yip CC, Poon RW, Tsoi H, Lo SK, Chan K, Poon VK, Chan W, Ip JD, Cai J, Cheng VC, Chen H, Hui CK, Yuen K. A familial cluster of pneumonia associated with the 2019 novel coronavirus indicating person-to-person transmission: a study of a family cluster. The Lancet. 2020 02;395(10223):514-523. https://doi.org/10.1016/s0140-6736(20)30154-9
6. Juan D. Wuhan wet market closes amid pneumonia outbreak. https://www.chinadaily.com.cn/a/202001/01/WS5e0c6a49a310cf3e35581e30.html. Accessed 2020 January 1.
7. Corman VM, Landt O, Kaiser M, Molenkamp R, Meijer A, Chu DK, Bleicker T, Brünink S, Schneider J, Schmidt ML, Mulders DG, Haagmans BL, van der Veer B, van den Brink S, Wijsman L, Goderski G, Romette J, Ellis J, Zambon M, Peiris M, Goossens H, Reusken C, Koopmans MP, Drosten C. Detection of 2019 novel coronavirus (2019-nCoV) by real-time RT-PCR. Eurosurveillance. 2020 01 23;25(3). https://doi.org/10.2807/1560-7917.es.2020.25.3.2000045
8. Lu X, Zhang L, Du H, Zhang J, Li YY, Qu J, Zhang W, Wang Y, Bao S, Li Y, Wu C, Liu H, Liu D, Shao J, Peng X, Yang Y, Liu Z, Xiang Y, Zhang F, Silva RM, Pinkerton KE, Shen K, Xiao H, Xu S, Wong GW. SARS-CoV-2 Infection in Children. New England Journal of Medicine. 2020 04 23;382(17):1663-1665. https://doi.org/10.1056/nejmc2005073
9. Coronavirus disease 2019 (COVID-19). https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html. Accessed 2020 March 13.
10. Coronavirus disease (COVID-19). How COVID-19 spreads. https://www.cdc.gov/coronavirus/2019-ncov/about/transmission.html. Accessed 2020 March 4.
11. Knight V, Heredia CH. Planes, Trains and Automobiles: What does a deep clean mean?. Scientific American. 2020 Mar 17;
12. Pleasance C. Half of the infected coronavirus passengers on board Diamond Princess cruise ship had NO symptoms. https://www.dailymail.co.uk/news/article-8109829/Half-infected-coronavirus-passengers-board-Diamond-Princess-cruise-ship-NO-symptoms.html. Accessed 2020 March 13.
13. Coronavirus outbreak. https://davidson.weizmann.ac.il/online/sciencenews/הנגיף-הקורונה-נכנס-לישראל-מה-צריך-לדעת. Accessed 2020 March 31.
14. Palestinian PM Orders West Bank Lockdown; More Than 1,000 Coronavirus Cases in Israel. https://www.haaretz.com/israel-news/dozens-of-new-york-hasidic-jews-in-coronavirus-quarantine-after-arriving-in-israel-1.8689682. Accessed 2020 March 22.

15. Poland Reports First Coronavirus Case - Health Minister. https://www.usnews.com/news/world/articles/2020-03-04/poland-reports-first-coronavirus-case-health-minister. Accessed 2020 April 3.

16. Pacjentka "nie była za granicą, nie miała kontaktu z osobą z podejrzeniem lub rozpoznaniem" zakażenia. https://tvn24.pl/polska/koronawirus-w-polsce-nowe-przypadki-zakazenia-4328168. Accessed 2020 March 9.

17. Prime Minister: We must maintain social distancing for the sake of the fight against the coronavirus. https://www.premier.gov.pl/en/news/news/prime-minister-we-must-maintain-social-distancing-for-the-sake-of-the-fight-against-the.html. Accessed 2020 March 31.

18. Number of new Coronavirus (COVID-19) cases confirmed in Poland in 2020, by date of report. https://www.statista.com/statistics/1102374/poland-coronavirus-covid-19-new-cases-by-report/. Accessed 2020 April 2.

19. Number of coronavirus (COVID-19) cases worldwide as of May 28, 2020, by country. https://www.statista.com/statistics/1043366/novel-coronavirus-2019-ncov-cases-worldwide-by-country/. Accessed 2020 April 3.

20. Ministry of Health: Guidelines for the Suspicion of Chinese Virus Issues. https://www.ynet.co.il/articles/0,7340,L-5664783,00.html. Accessed 2020 January 23.

21. Cross-border Protocol - Coping with the corona virus's new disease. https://www.health.gov.il/Subjects/disease/corona/Documents/coronavirus_med_guidelines.pdf. Accessed 2020 January 30.

22. The new novel coronavirus. https://www.health.gov.il/Subjects/disease/corona/Pages/default.aspx. Accessed 2020 March 4.

23. Home Insulation Guidelines. https://www.health.gov.il/Subjects/disease/corona/Pages/default.aspx?2702-9#home_quarantine_guidance. Accessed 2020 February 1.

24. Emergency regulations (new novel coronavirus-activity restrictions). https://www.gov.il/he/General/corona_official. Accessed 2020 March 20.

25. Israel Ranked 1st in the Covid-19 Health Safety Countries Ranking on the Deep Knowledge Group Website. https://www.gov.il/en/departments/news/spoke_ranking310320. Accessed 2020 March 31.

26. Coronavirus Health Safety Countries Ranking. Coronavirus Health Safety Countries Ranking. Accessed 2020 April 2.