Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Journal of Infection and Public Health 13 (2020) 1367–1372

Contents lists available at ScienceDirect

Journal of Infection and Public Health

journal homepage: http://www.elsevier.com/locate/jiph

Review

The first few cases and fatalities of Corona Virus Disease 2019 (COVID-19) in the Eastern Mediterranean Region of the World Health Organization: A rapid review

Muna Abed Alah[a,*], Sami Abdeen[a], Vahe Kehyayan[b]

[a] Community Medicine Residency program, Hamad Medical Corporation (HMC), Doha, Qatar
[b] University of Calgary in Qatar, Doha, Qatar

ARTICLE INFO

Article history:
Received 8 April 2020
Received in revised form 28 May 2020
Accepted 3 June 2020

Keywords:
COVID-19
Eastern Mediterranean Region
First case
First death

ABSTRACT

In December 2019, a cluster of atypical Pneumonia cases in Wuhan, China were reported to the World Health Organization (WHO). Later, those cases were attributed to a novel respiratory virus currently known as COVID-19. The infection is affecting every continent. It was characterized by WHO as a global pandemic on 11 March 2020. Countries worldwide are implementing various preventive measures to contain the spread of the infection such as travel and trade restrictions, closure of educational institutions and shops, and some took more strict measures such as imposing curfew. WHO is emphasizing the importance of early detection of cases, contact tracing, risk communications, implementing multisectoral approach in order to combat COVID-19 infection. Countries should provide the public with accurate, transparent information about the local and global situation of this escalating infection. Much uncertainty still surrounds this viral infection, its modes of transmission and dynamics. Epidemiological investigations particularly for the first few cases of COVID-19 infection are critical to expand our knowledge about this evolving pandemic. In this review we summarized the data available about the first few cases and fatalities of COVID-19 infection up to 18 March 2020 across Eastern Mediterranean Region of the World Health Organization. such data were only available in websites of ministries of health of the targeted countries, WHO situational reports, online newspapers, and other media channels and this gave us an idea about the amount and type of data available for the public regarding this evolving infection.

Contents

* Corresponding author.
E-mail addresses: MAbedAlah@hamad.qa (M. Abed Alah), SAbdeen@hamad.qa (S. Abdeen), vkehyaya@ucalgary.ca (V. Kehyayan).

https://doi.org/10.1016/j.jiph.2020.06.009

Introduction

Coronaviruses (CoV) are a large family of viruses that cause illness ranging from the common cold to more severe diseases such as the Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV) [1,2]. A novel coronavirus currently causing what is known as COVID-19 (Corona Virus Disease 2019) is an emerging new strain that has not been previously identified in humans [2]. The current reference name for the virus is severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and the disease it is causing was named by the World Health Organization (WHO) as Corona Virus Disease 2019 (COVID-19) [3]. Common symptoms include dry cough, fever and fatigue [4,5].

Coronaviruses are zoonotic, meaning they spread from animals to humans [6]. Investigations found that SARS-CoV was transmitted from civet cats to humans and MERS-CoV from dromedary camels to humans [2]. Several known coronaviruses are circulating in animals that have not yet infected humans [2]. Infection can cause respiratory symptoms such as shortness of breath, cough and fever. In their severe forms, coronaviruses can cause pneumonia, severe acute respiratory syndrome, renal failure and even death [2].

On 31 December 2019, a cluster of pneumonia patients in Wuhan City, Hubei Province of China were reported to the WHO [7]. All were linked to Wuhan's Huanan Seafood Wholesale Market, which trades in fish and a variety of live animal species including poultry, bats, marmots, and snakes. One week later, on 7th of January 2020, Chinese authorities confirmed that they had identified a novel (new) coronavirus as the cause of the pneumonia [7]. Since then the infection spread to most of WHO regions facilitated by the travel of infected individuals. WHO characterized COVID-19 infection as a pandemic on 11 March 2020 [8].

A statement by the WHO regional director, Dr Ahmed Al-Mandhari, on COVID-19 in the Eastern Mediterranean Region (EMR) announced that by 18 March 2020 there had been 167,515 confirmed cases of COVID-19 in 150 countries globally among them 18,019 cases in 18 EMR countries. There had been a total of 6606 COVID-19 related deaths globally, including 1010 deaths reported from seven EMR countries [9].

Uneven approaches have been identified by WHO across the EMR in combating the COVID-19 pandemic [9]. Countries that have made the most progress are those who implemented a multisectoral and multimodal approaches involving both the private sector and civil society and not just the ministries of health [9]. These countries are the ones who are providing the public with periodic updates regarding the local and global situation of COVID-19 infection, the preventive measures undertaken to contain the spread of the infection, and instructing individuals to protect themselves with simple measures such as practicing social distancing and hand hygiene. Early detection, testing, isolation, treatment, contact tracing and community engagement represent the best measures to control the pandemic [9]. The WHO during its joint missions to several EMR countries identified several areas that needed strengthening such as in disease surveillance, preparing hospitals, protecting healthcare workers, and educating communities [9].

Information about COVID-19 cases in the EMR including those identified, suspected or probable, and laboratory confirmed cases must be shared with WHO in accordance with the International Health Regulations (IHR 2005) in order to understand the dynamics of the disease and to implement preventive public health measures to contain the spread of the infection and control the evolving pandemic [10]. Unfortunately, as the situation is escalating and becoming more critical, information on cases is insufficiently communicated by countries to the WHO [9].

Sharing information about the disease status with the public in each country (whether via newsletters, news channels, press conferences, social media channels, official websites of ministries of health and others) can provide a better sense of the scope of the threat posed by COVID-19. Such communication will consequently create a sense of shared responsibility among the targeted audience toward themselves and others. It will also spread awareness about the correct measures that people can follow to protect themselves and their families. There is much uncertainty surrounding COVID-19 infection. We have limited understanding of its transmission patterns, severity, clinical features and risk factors making early epidemiological and clinical investigations early in an outbreak, especially for the first few cases confirmed in a country, critical. In this rapid review we summarize the published data about the first few cases and fatalities of COVID-19 in the EMR, including the origin of those cases, their symptomatic status, and measures taken by countries in dealing with them.

First few cases and fatalities of COVID-19 in the Eastern Mediterranean Region

In WHO's EMR Corona Virus Disease 2019 (COVID-19), formerly known as the Novel corona virus 2019, was first reported in the United Arab Emirates (UAE). On 29 January 2020, the first case in the UAE was confirmed to be a 73 year old woman of a Chinese national who came to the country on holiday with her family from Wuhan, the largest city of the Hubei province in the Republic of China. She initially developed flue like symptoms and visited a local health clinic. The family of four including a mother, father, 9 year old child, and the 73 year old grandmother were confirmed to have been infected with the virus after visiting a local health clinic, within a week of arriving UAE [11].

On 14 February 2020, Egypt reported its first confirmed case of COVID-19. This is the second country in the WHO EMRO region to confirm a case, and the first reported case from the African continent [12]. It was detected with laboratory test done at the Cairo International Airport involving a Chinese national who was asymptomatic [13]. The first COVID-19 related death reported in Egypt was on 8 March 2020. The deceased was a 60 years old German tourist who had arrived in Egypt one week before his death. He had developed fever and was immediately hospitalized. However, his condition deteriorated and he died [14].

On 19 February 2020, two people tested positive for COVID-19 in the city of Qom in Iran. Later that day, both had died. No disclosure had been made of their gender or age [15]. The following day three new cases (two from Qom city and one from Arak) also tested positive [16].

At a press conference held on Friday, February 21, 2020 the Lebanese Minister of Health confirmed that a 45 year old Lebanese woman returning from Qom, Iran had tested positive for COVID-19. Upon her arrival she was examined by a medical team and quarantined after she was found to be symptomatic. The Lebanese Red Cross isolated her and transported her to Rafik Hariri Hospital, which is now being utilized as a "center for quarantining arrivals from Iran and other countries where the presence of the virus has been confirmed" [17]. On 26 February, another woman, who had also returned from Iran and was on the same plane as the first patient had also tested positive and she was symptomatic [18]. The first coronavirus-related death in Lebanon was recorded on 10 March 2020. The patient was a male who came from Egypt which at the time of his arrival was not considered a high risk country. Later on, he developed fever and other respiratory symptoms and received antibiotics at home. However, subsequently when his condition worsened, he was rushed to Sayidat Mauonat Hospital in Jbeil, located to the northeast of Lebanon's capital Beirut, and was tested for COVID-19. When the test was confirmed to be positive,

he was transferred to the Rafik Hariri University Hospital where his condition deteriorated rapidly and he subsequently died [19].

On 24 February 2020, five other EMR countries reported their first cases (Afghanistan, Bahrain, Iraq, Kuwait, and Oman). Afghanistan's Ministry of Public Health (MoPH) reported the first case with COVID-19 in the western province of Hirat for an Afghan male [20]. On 7th of March, three additional individuals in Hirat were also confirmed with the virus. Public health officials reported that all but one case had a previous travel history to Iran [21]. The first case in Bahrain was a school bus driver who arrived at the Bahrain International Airport on February 21 from Iran, via Dubai, with no symptoms, but became symptomatic a few days later. The Ministry of Health had contacted the families of the students who were on the bus, and all students were tested to ensure they were free of the COVID-19 and schools were closed to contain the spread of the virus. No disclosures were made about the outcome of those tests and subsequent course of action. The ministry has contacted all passengers on the same flight with that patient for medical testing and all family members and individuals who have been in contact with the patient were contacted and tested to ensure they are free of the virus, and they were placed under supervision for 14 days at a designated quarantine center for suspected cases [22].

The second case in Bahrain was detected on the same day through screening at the Bahrain International Airport of a Bahraini woman who also arrived from Iran along with her accompanying relatives. They were all placed in quarantine after testing negative for the virus [23]. The first COVID-19 fatality in Bahrain was reported on 16 March 2020 of a 65 year old female Bahraini national who was suffering from underlying chronic health problems and had recently returned from Iran [24].

The first confirmed case in Iraq was an Iranian religious studies student in the city of Najaf [25]. On 3 March 2020, a 70 year old Iraqi Islamic preacher became the first fatality in Iraq due to the outbreak. It was reported that he had chronic heart failure, asthma, and previously had undergone heart surgery. The following day, his son announced that the preacher had not visited Iran recently raising questions about the source of his exposure [26].

On 24 February 2020, the Kuwaiti Ministry of Health announced the first 5 cases of COVID-19. All cases were among those evacuated from the Iranian city of Mashhad, a Muslim pilgrim site on the same flight, and were immediately placed in quarantine upon arrival. The first three cases were: a 53 year old Kuwaiti national, a 61 year old Saudi national, and a 21 year old man from the stateless community, the later only started to show symptoms while others were under monitoring. The other two cases were females [27,28].

In Oman, the first two cases of COVID-19 were Omani women who had returned from Iran. They were in a stable condition but were placed in quarantine [29]. There were no reported COVID-19 related deaths in each of Afghanistan, Kuwait and Oman until 18 March 2020 [30].

On 26 February 2020, Pakistan announced two confirmed cases both of whom had recently returned from Iran and both were in stable condition. One was reported from Karachi and the other from Islamabad. The government informed WHO and announced that they will track all other passengers accompanying the cases [31].

The first two COVID-19 related fatalities in Pakistan were reported on 18 March 2020. Both deaths were reported in the northwestern Khyber Pakhtunkhwa (KP) province. The first one was a 50 years old man who had recently returned to Pakistan after performing the Umrah pilgrimage in Mecca, Saudi Arabia. The victim's family members and other people he came into contact with were being screened. The second one was a 36 year old man who had recently returned from Dubai [32].

On 29 February 2020, Qatar confirmed the first COVID-19 case who was a 36 years old Qatari male who had returned from Iran. He was evacuated along with other passengers on government-charted plane. He was admitted to the Communicable Disease Center and isolated under strict infection control measures. All passengers were tested and placed in quarantine [33].

Four other EMR countries reported their first COVID-19 cases on 2 March 2020. These countries were Jordan, Morocco, Saudi Arabia, and Tunisia. Jordan confirmed that the first case was a 33 year old Jordanian male citizen who had returned from Italy two weeks before Jordan implemented quarantine measures for all returnees from Italy, he developed symptoms and went and declared himself to Ministry of Health where he was tested. Ministry of health imposed self-quarantine to his family members and friends [34].

On 15 March 2020 the government announced additional 12 new cases (five Jordanian citizens, six French tourists, and an Iraqi national). No connections were reported among these five individuals. One of the Jordanian citizens was detected through contact tracing after being in contact with an infected American tourist who had come from Egypt two days before. Another Jordanian citizen had tested positive after returning from the United Kingdom [35].

In Morocco the first COVID-19 case was reported in Casablanca for a Moroccan Expatriate male residing in Italy and who had returned from Italy on 27 February 2020 [36,37]. A second case was confirmed by the end of the day involving an 89 year old Moroccan woman who was also residing in Italy; she had returned Morocco on 25 February 2020 from the Italian city of Bologna. On 10 March 2020, a French tourist who arrived in Marrakesh was confirmed to be the third case. On the same day, one of the two first cases, the 89 year old woman died [36].

A Saudi male citizen who returned from Iran via Bahrain was the first confirmed case in Saudi Arabia. He was placed in quarantine and all those he has been in contact with were tested [38]. The second case was reported on 4 March 2020 of an individual who had accompanied the first case. On 5 March 2020 three more cases were reported; two of the three cases were a married couple. Their nationalities had not been disclosed. The husband had recently returned from Iran via Kuwait and he passed the virus to his wife. He had not informed the authorities of his visit to Iran on his arrival into the Kingdom. The third case was another Saudi citizen who had returned from Iran via Bahrain and had been accompanying the first two cases [39]. Tunisia reported its first case on 2 March 2020. The individuals was a 40 year old Tunisian man who had recently returned from Italy [40].

On 5 March 2020, the Palestinian Ministry of Health reported seven cases of COVID-19 in the Occupied Palestinian Territory to WHO. As reported by the Ministry, all confirmed COVID-19 cases were in the town of Bethlehem. All were asymptomatic and were thought to be related to contact with a group of Greek tourists who had visited the area in late February and had tested positive for COVID-19 upon their return to Greece [41]. There were no reported COVID-19 deaths in each of Jordan, Palestine, Qatar, Saudi Arabia, and Tunisia until 18 March 2020 [30].

On 13 March 2020, Sudan reported its first COVID-19 case in Khartoum. A 50 years old Sudanese man who died on 12 March 2020 had visited UAE the first week of March [42]. In Somalia the first case was confirmed on 16 March 2020 to be a Somali male citizen who had returned home from China [43,44].

The first confirmed case in Djibouti, located in the Horn of Africa, was a Spanish national who was a member of a 32-member Spanish Special Forces Unit. He had arrived in the country on March 14 and had tested positive on March 17. The Djibouti Ministry of Health reported the case on 18 March 2020 [45]. There were no reported COVID-19 deaths in Djibouti until 18 March 2020 [30].

By 18 March 2020, Yemen, Libya and Syria had not reported any COVID-19 cases [30]. Table 1 summarizes the first cases and fatalities of COVID-19 infection across countries of WHO's EMR

Table 1
First cases and fatalities of COVID-19 infection across countries of Eastern Mediterranean Region, arranged according to the date of first confirmed case [30,46].

Country	Transmission classification (as of 18/3/2020)	Date of first confirmed case	Origin of first confirmed case	Total confirmed cases (as of 18/3/2020)	Date of first COVID-19 related death	Total COVID-19 related deaths (as of 18/3/2020)
United Arab Emirates	Local transmission	29/01/2020	Imported from Wuhan-China	113	N/A	None
Egypt	Local transmission	14/02/2020	Imported from China	210	8/03/2020	6
Iran	Local transmission	19/02/2020	Local	17,361	19/02/2020	1135
Lebanon	Local transmission	21/02/2020	Imported from Qom-Iran	139	10/03/2020	4
Afghanistan	Imported	24/02/2020	Imported from Iran	22	N/A	None
Bahrain	Local transmission	24/02/2020	Imported from Iran	256	16/03/2020	1
Iraq	Local transmission	24/02/2020	Imported from Iran	164	03/03/2020	12
Kuwait	Local transmission	24/02/2020	Imported from Mashhad-Iran	148	N/A	None
Oman	Imported	24/02/2020	Imported from Iran	39	N/A	None
Pakistan	Imported	26/02/2020	Imported from Iran	307	18/03/2020	2
Qatar	Local transmission	29/02/2020	Imported from Iran	452	N/A	None
Jordan	Imported	02/03/2020	Imported from Italy	56	N/A	None
Morocco	Local transmission	02/03/2020	Imported from Italy	54	10/03/2020	2
Saudi Arabia	Local transmission	02/03/2020	Imported from Iran	238	N/A	None
Tunisia	Local transmission	02/03/2020	Imported from Italy	29	N/A	None
Palestine	Local transmission	05/03/2020	Imported from Greece	44	N/A	None
Sudan	Imported	13/03/2020	Imported from China	1	12/03/2020	1
Somalia	Imported	16/03/2020	Imported from China	1	N/A	None
Djibouti	Under investigation	17/03/2020	Imported from Spain	1	N/A	None
Syria	No reported cases					
Yemen	No reported cases					
Libya	No reported cases					

N/A Not Applicable

Table 2
Demographic characteristics of the first COVID-19 cases across countries of Eastern Mediterranean Region.

Country	Gender	Age in years	Nationality
United Arab Emirates	Female	73	Chinese
Egypt	Not available	Not available	Chinese
Iran	Not available	Not available	Not available
Lebanon	Female	45	Lebanese
Afghanistan	Male	35	Afghan
Bahrain	Male	Not available	Bahraini
Iraq	Not available	Not available	Iranian
Kuwait	Male	53	Kuwaiti
Oman	Female	Not available	Omani
Pakistan	Not available	Not available	Pakistani
Qatar	Male	36	Qatari
Jordan	Male	33	Jordanian
Morocco	Male	39	Moroccan
Saudi Arabia	Male	Not available	Saudi
Tunisia	Male	40	Tunisian
Palestine	Not available	Not available	Palestinian
Sudan	Male	50	Sudanese
Somalia	Male	Not available	Somali
Djibouti	Male	Not available	Spanish

Not available: Despite a thorough review of the data published online relevant demographic data was not reported.

region. The countries are arranged according to the date of their first confirmed case [30,46].

Table 2 presents the demographic characteristics (age, gender and nationality) of the first COVID-19 cases across countries of WHO's Eastern Mediterranean Region. Of the 19 countries reporting cases, five did not report gender. Of the remaining 14 countries, 11 cases were males and three were females. Syria, Yemen and Libya are not listed in this table because they had not reported any cases by March 18, 2020.

The map in Fig. 1 is a pictorial distribution of COVID-19 confirmed cases and related deaths across WHO's EMR as of March 18, 2020. The numerator denotes the number of deaths and the denominator denotes the number of confirmed cases for each of the EMR countries (Deaths/Cases).

Discussion

Almost all of the recorded first COVID-19 cases in the EMR are imported, mostly from Iran which recorded the highest number of cases and COVID-19 related deaths in the region by the time of this review. This finding is consistent with findings from countries in other WHO regions such as the European region [47], the region of the Americas including the United States [48] and Brazil [49], WHO's African region such as Algeria [50] and South Africa [51]. This highlights the role of travel in spreading infectious diseases between countries and signifies its importance as a potent force in the emergence and spread of infections in geographic areas and populations. By 18 March 2020 there have been no reported COVID-19 cases in each of Syria, Yemen and Libya which might reflect the underlying weak reporting and surveillance system and the weak health infrastructure in such conflict zones. The global health emergency created by COVID-19 is particularly concerning in countries affected by fragility, conflict and violence since ongoing violent conflict and weak health infrastructure is already prohibiting the delivery and administration of basic public health measures such as testing and treatment resources.

Transparency of countries in sharing information is critical to our understanding of how this virus transcends into a pandemic threat. In this review we found that information on cases is insufficiently communicated by countries to the WHO and to the public. Good and effective communication with the media as well as the general public is essential in order to increase the public's trust and confidence in the measures taken by the respective national health authorities to control the spread of the infection. Risk communication is as well an integral component of control efforts. Evidence shows that communication failures may lead to delayed outbreak control, undermined public trust and compliance, and

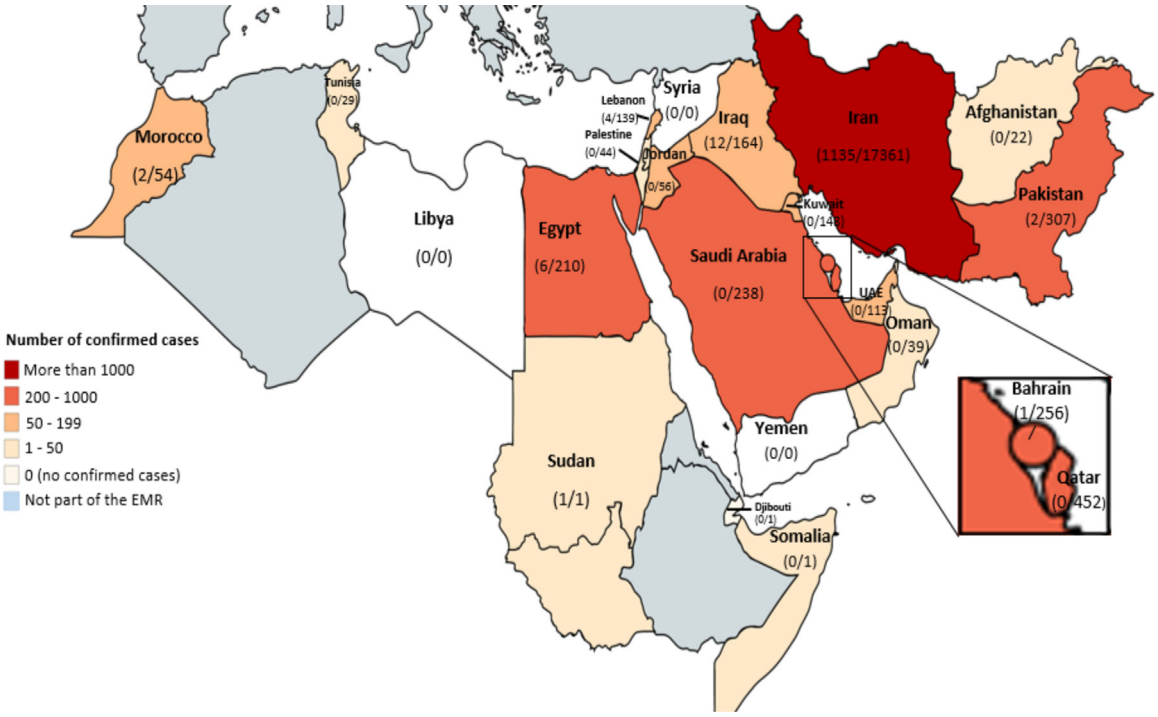

Fig. 1. Map showing the distribution of COVID-19 confirmed cases and related deaths across WHO's Eastern Mediterranean Region expressed as Deaths/Cases.

unnecessarily prolonged economic, social and political turmoil [52].

Conclusion

As with many novel respiratory pathogens, the detection and spread of COVID-19 are accompanied by uncertainty over the key epidemiological and clinical characteristics of the virus which we need to understand particularly for the first few cases of the infection in a country in order to inform the development of targeted public health guidance and policy decisions. Furthermore, understanding of the first few cases will facilitate timely estimation of the transmission patterns, severity, and the key viral dynamics of COVID-19 infection. Updating the public with the current situation of this global pandemic and the measures taken by those countries to contain the spread of the virus is essential. People need to be involved in the fight against this emerging infection. They need to be equipped with accurate and transparent information to be able to protect themselves and their families from this evolving infection. Unfortunately, in this rapid review we found a deficiency in the published data regarding the methods of detecting the cases, their symptomatic status, and the detailed measures taken by countries in dealing with the first few cases and their contacts.

Funding

The publication of this article was funded by the Qatar National Library.

Competing interests

None declared.

Ethical approval

Not required.

Acknowledgments

We would like to thank Dr. Iheb Bougmiza and Dr. Nagah Horeesh from community medicine department- Doha Qatar for their guidance and support. And we would like to thank Qatar National Library for funding the publication of this article.

References

[1] Zhu N, Zhang D, Wang W, Li X, Yang B, Song J, et al. A novel coronavirus from patients with pneumonia in China, 2019. N Engl J Med 2020;382:727–33, http://dx.doi.org/10.1056/NEJMoa2001017.
[2] World Health Organization Regional office for the Eastern Mediterranean about COVID-19; n.d. http://www.emro.who.int/health-topics/corona-virus/about-covid-19.html [accessed 10.03.20].
[3] World Health Organization. Naming the coronavirus disease (COVID-19) and the virus that causes it; n.d. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-(covid-2019)-and-the-virus-that-causes-it [accessed 10.03.20].
[4] World Health Organization. Q&A on coronaviruses (COVID-19); n.d. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/question-and-answers-hub/q-a-detail/q-a-coronaviruses [accessed 15.03.20].
[5] Guan W-J, Ni Z-Y, Hu Y, Liang W-H, Ou C-Q, He J-X, et al. Clinical characteristics of coronavirus disease 2019 in China. N Engl J Med 2020:1–13, http://dx.doi.org/10.1056/NEJMoa2002032.
[6] MacKenzie JS, Smith DW. COVID-19: a novel zoonotic disease caused by a coronavirus from China: what we know and what we don't. Microbiol Aust 2020;41:45–50, http://dx.doi.org/10.1071/MA20013.
[7] Sohrabi C, Alsafi Z, O'Neill N, Khan M, Kerwan A, Al-Jabir A, et al. World Health Organization declares global emergency: a review of the 2019 novel coronavirus (COVID-19). Int J Surg 2020;76:71–6, http://dx.doi.org/10.1016/j.ijsu.2020.02.034.
[8] World Health Organization. Coronavirus (COVID-19) events as they happen. WHO characterizes COVID-19 as a pandemic; n.d. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen [accessed 18.03.20].
[9] World Health Organization Regional office for the Eastern Mediterranean. Statement by the regional director Dr Ahmed Al-Mandhari on COVID-19 in the Eastern Mediterranean 2020. http://www.emro.who.int/media/news/statement-by-the-regional-director-dr-ahmed-al-mandhari-on-covid-19-in-the-eastern-mediterranean.html [accessed 21.03.20].
[10] Malik MR, Mafi AR, Mahjour J, Opoka M, Elhakim M, Muntasir MO. Novel coronavirus infection in the Eastern Mediterranean Region: time to act. East Mediterr Heal J 2013;19:31–8.
[11] Duncan G, Guatam S. Coronavirus: UAE records first case. The National; 2020.

[12] World Health Organization. Coronavirus disease 2019 (COVID-19) situation report – 26. vol. 2019; 2020. doi: 10.1001/jama.2020.2633.
[13] Egypt announces first coronavirus infection. Egypt Today; 2020. https://www.egypttoday.com/Article/1/81641/Egypt-announces-first-Coronavirus-infection [accessed 15.03.20].
[14] Kazeem Y. Coronavirus: Egypt records first death in Africa. Quartz Africa; 2020. https://qz.com/africa/1814988/coronavirus-egypt-records-first-death-in-africa/ [accessed 24.03.20].
[15] Two Iranians die after testing positive for coronavirus. CNBC; 2020. https://www.cnbc.com/2020/02/19/two-iranians-die-after-testing-positive-for-coronavirus.html [accessed 20.03.20].
[16] Iran's coronavirus deaths rise to 1556 infections exceed 20,000: health ministry. Reuters; 2020. https://www.reuters.com/article/us-health-coronavirus-iran/irans-coronavirus-deaths-rise-to-1556-infections-exceed-20000-health-ministry-idUSKBN2180BU [accessed 18.03.20].
[17] First coronavirus case confirmed in Lebanon. The961; 2020. https://www.the961.com/first-coronavirus-case-confirmed-in-lebanon/ [accessed 24.03.20].
[18] Abdul Reda N. Second coronavirus case just recorded in Lebanon. The961; 2020. https://www.the961.com/second-coronavirus-case-just-recorded-in-lebanon/ [accessed 18.03.20].
[19] Abdul Reda N. Breaking: first person dies from coronavirus in Lebanon. The961; 2020. https://www.the961.com/first-death-coronavirus-in-lebanon/ [accessed 18.03.20].
[20] Mousavi SH, Shah J, Giang HTN, Al-Ahdal TMA, Zahid SU, Temory F, et al. The first COVID-19 case in Afghanistan acquired from Iran. Lancet Infect Dis 2020, http://dx.doi.org/10.1016/S1473-3099(20)30231-0.
[21] UN Office for the Coordination of Humanitarian Affairs. AFGHANISTAN Brief: COVID-19, vol. 9; 2020.
[22] Kingdom Of Bahrain Ministry of Health. Patient with coronavirus (COVID-19) isolated and receiving treatment; 2020. https://www.moh.gov.bh/COVID19/Details/3753 [accessed 15.03.20].
[23] Kingdom of Bahrain Ministry of Health. Ministry of Health announces new case of Coronavirus (COVID-19); 2020. https://www.moh.gov.bh/COVID19/Details/3875 [accessed 15.03.20].
[24] Kingdom Of Bahrain Ministry of Health. Ministry of Health announces death of 65-year-old Bahraini national; 2020. https://www.moh.gov.bh/COVID19/Details/3959 [accessed 18.03.20].
[25] United Nations Office for the coordination of humanitarian affairs in collaboration with humanitarian partners. IRAQ: COVID-19 situation report No. 3; 2020.
[26] Menmy D. Some Iraqis rejecting coronavirus warnings; 2020. https://www.al-monitor.com/pulse/originals/2020/03/iraq-kurdistan-region-coronavirus-reject-warnings.html [accessed 16.03.20].
[27] Kuwait MoH confirms 2 more coronavirus cases. Kuwait News Agency; 2020. https://www.kuna.net.kw/ArticleDetails.aspx?id=2865550&language=en [accessed 17.03.20].
[28] Al Shurafa S. Toumi habib. Bahrain and Kuwait confirm first cases of coronavirus disease. Gulf News; 2020.
[29] Ministry of Health Sultanate of Oman. MOH registers first two novel coronavirus (COVID-2019) in Oman; 2020. https://www.moh.gov.om/en/-/–1226 [accessed 18.03.20].
[30] Worldometer. Coronavirus cases; 2020. https://www.worldometers.info/coronavirus/coronavirus-cases/#daily-cases [accessed 18.03.20].
[31] Shahid A. Two coronavirus cases confirmed in Pakistan. Pakistan Today 2020.
[32] Pakistan confirms 2 deaths from coronavirus. Anadolu Agency; 2020. https://www.aa.com.tr/en/asia-pacific/pakistan-confirms-2-deaths-from-coronavirus/1771081 [accessed 18.03.20].
[33] Qatar confirms first case of coronavirus. Qatar Tirbune; 2020. http://www.qatar-tribune.com/Latest-News/ArtMID/423/ArticleID/28633/first-case-of-confirmed-coronavirus-covid-19-reported-in-qatar [accessed 10.03.20].
[34] Naar I, Judd E. First Jordanian infected with coronavirus says he is recovering, cautions others; 2020. https://english.alarabiya.net/en/features/2020/03/04/First-Jordanian-infected-with-coronavirus-says-he-is-recovering-cautions-others.html [accessed 18.03.20].
[35] Jordan confirms 12 cases of COVID-19. Jordan Times; 2020. https://www.jordantimes.com/news/local/jordan-confirms-12-cases-covid-19-health-ministry [accessed 18.03.20].
[36] SENHAJI M. Morocco announces first case of death from new coronavirus. Le Matin; 2020.
[37] Coronavirus: a timeline of COVID-19 in Morocco. Morocco World News; 2020. https://www.moroccoworldnews.com/2020/03/296727/coronavirus-a-timeline-of-covid-19-in-morocco/ [accessed 26.03.20].
[38] Saudi Arabia announces first case of coronavirus. Arab News; 2020. https://www.arabnews.com/node/1635781/saudi-arabia [accessed 18.03.20].
[39] Saudi Arabia announces three more cases of coronavirus. Arab News; 2020. https://www.arabnews.com/node/1637311/saudi-arabia [accessed 18.03.20].
[40] Italian returnee confirmed Tunisia's first coronavirus case. Punch Newspapers; 2020. https://punchng.com/italian-returnee-confirmed-tunisias-first-coronavirus-case/ [accessed 15.03.20].
[41] World Health Organization. WHO Coronavirus disease (COVID-19) update 4, occupied Palestinian territory; 2020.
[42] Sudan reports first coronavirus case. The EastAfrican; 2020. https://www.theeastafrican.co.ke/scienceandhealth/Sudan-reports-first-coronavirus-case/3073694-5489948-j7ya0lz/index.html [accessed 25.03.20].
[43] Somalia confirms first case of Covid-19. The EastAfrican; 2020. https://www.theeastafrican.co.ke/scienceandhealth/Somalia-Covid-19-case/3073694-5493146-nx7h2b/index.html [accessed 25.03.20].
[44] Somalia, Tanzania confirm first coronavirus cases. Anadolu Agency; 2020. https://www.aa.com.tr/en/africa/somalia-tanzania-confirm-first-coronavirus-cases/1767971 [accessed 18.03.20].
[45] Tekle TA. Djibouti Confirms First COVID-19 Case. Allafrica; 2020. https://allafrica.com/stories/202003190720.html [accessed 24.03.20].
[46] WHO. Coronavirus disease 2019 situation report – 58, vol. 2019; 2020, http://dx.doi.org/10.1001/jama.2020.2633.
[47] Spiteri G, Fielding J, Diercke M, Campese C, Enouf V, Gaymard A, et al. First cases of coronavirus disease 2019 (COVID-19) in the WHO European Region, 24 January to 21 February 2020. Eurosurveillance 2020, http://dx.doi.org/10.2807/1560-7917.ES.2020.25.9.2000178.
[48] Holshue ML, DeBolt C, Lindquist S, Lofy KH, Wiesman J, Bruce H, et al. First case of 2019 novel coronavirus in the United States. N Engl J Med 2020;382:929–36, http://dx.doi.org/10.1056/NEJMoa2001191.
[49] Rodriguez-Morales AJ, Gallego V, Escalera-Antezana JP, Méndez CA, Zambrano LI, Franco-Paredes C, et al. COVID-19 in Latin America: the implications of the first confirmed case in Brazil. Travel Med Infect Dis 2020, http://dx.doi.org/10.1016/j.tmaid.2020.101613.
[50] WHO Regional Office for Africa. A second COVID-19 case is confirmed in Africa WHO Regional Office for Africa; 2020. https://www.afro.who.int/news/second-covid-19-case-confirmed-africa [accessed 25.03.20].
[51] The national institute for communicable diseases (NICD). First case of COVID-19 coronavirus reported in SA; 2020. https://www.nicd.ac.za/first-case-of-covid-19-coronavirus-reported-in-sa/ [accessed 26.03.20].
[52] Tabbaa D. Emerging zoonoses: responsible communication with the media-lessons learned and future perspectives. Int J Antimicrob Agents 2010;36:80–3, http://dx.doi.org/10.1016/j.ijantimicag.2010.06.028.