AJMAS
https://alqalam.utripoli.edu.ly/science/ eISSN 2707-7179

Original Article

Clinical Characteristics of Covid-19 in Libya: Case Series

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ARTICLE INFO

https://doi.org/10.5281/zenodo.4570615

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Received: *25-02-2021*
Accepted: *28-02-2021*
Published: *01-03-2021*

Keywords: *Clinical Characteristics, Coronavirus, COVID-19, SARS-CoV-2, 2019-nCoV, Pneumonia.*

ABSTRACT

Background and objectives*: In the face of emerging and rapidly spread of coronavirus disease 2019 (Covid-19) in Libya, it is important to fully understand the spectrum of initial symptoms of the infected patients in order to identify new cases as early as possible. The current study describes the initial observation of clinical characteristics of COVID-19 among Libyan patients. Early detection and identification of suspected cases should lead to systematic screening for the disease and could be helpful to ensure immediate isolation until a definite diagnosis is made.* ***Methods****: This case series study evaluated 325 confirmed COVID-19 infected patients who made a contact with Covid-19 Emergency Response Centre (CERC) in the period from October 20, 2020, to November 30, 2020. All cases were diagnosed by reverse-transcriptase polymerase-chain-reaction test (RT-PCR). Data were extracted from Zendesk Software in CERC and SPSS was used for data analysis.* ***Results****: In our study, the mean (SD) age of infected patients was 57.6 (19.1%) years, with 59% were ≥ 50 years and 194 (60%) were male. Our study found that 215 (66%) of our patients had shortness of breath. Shortness of breath was identified as the commonest clinical feature among the infected patients in this study. However, we found that 179 (55%) of patients had fever, which was similar to many studies conducted previously on the COVID-19 patients. In our study, about 165 (51%) of patients had cough and 78 (24%) of our patients had anosmia and ageusia.* ***Conclusion****: This case series demonstrated that the characteristics of Libyan COVID-19 patients were generally similar to what was published in other literatures, although we reported more respiratory symptoms at presentation such as shortness of breath (66%) and generalized fatigability (61%) as the commonest features in the study.*

Cite this article: *Khalifa E, Omrani E, Bashagha M. Clinical Characteristics of Covid-19 in Libya: Case Series. Alq J Med App Sci. 2021;4(1):127-131.*

INTRODUCTION

On December 31, 2019 the World Health Organization (WHO) China Country Office was informed of pneumonia of unknown cause [1]. A week later, the Chinese authorities detected a novel member of human RNA coronavirus belonging to the beta coronavirus as the cause of the disease in the city of Wuhan in Hubei province, named a novel coronavirus (2019-nCoV) [2]. According to the authorities, some patients were operating dealers or vendors in the Huanan Seafood market [3].

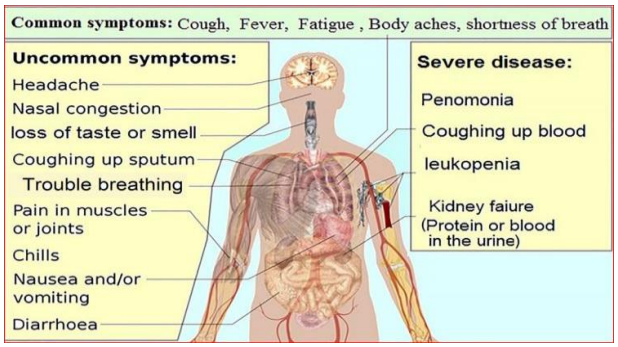
Later on, the International Committee on Taxonomy of Viruses (ICTV) officially named it as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The disease name was subsequently recommended as Coronavirus Disease 2019 (COVID-19) by Chinese

Scientists and WHO [4, 5]. The WHO has declared COVID-19 outbreak a global health emergency at the end of January 2020 and a global pandemic on March 11, 2020, as the outbreak continuous to spread outside China [5].

The first confirmed case of COVID-19 in Libya was reported on 24 of March 2020 in the capital city of Tripoli. According to the National Centre for Disease Control in Libya, case zero was a 73-year old Libyan male visited Saudi Arabia. There, he encountered with other people during the religious gathering in February 2020. He returned to Libya on March 4, 2020 and he developed symptoms almost 2 weeks later [6]. Since then, the number of cases has increased steadily, and by April 16, the number of confirmed COVID-19 cases in Libya was 49 [7]. And by the end of June, the total number of confirmed cases rising to 824, and at the close of 2020, the total number of confirmed cases was reached to 100,277 cases [8].

The presence of COVID-19 is manifested by several symptoms, ranging from asymptomatic/mild symptoms to severe illness and death. Common symptoms include cough, fever, and shortness of breath. Other reported symptoms are weakness, malaise, respiratory distress, muscle pain, sore throat, and loss of taste and/or smell. Effect of COVID-19 on Other Organs In addition to respiratory illnesses, which may be associated with pneumonia, sepsis, or lung failure, evidence, suggests that COVID-19 may affect other parts of the body as well. Figure (1) illustrates some common, uncommon, and severe symptoms in patients with COVID-19 [4].

Fig (1) The clinical characteristics caused by the COVID-19



Adopted from: A comprehensive review of COVID-19 characteristics (nih.gov)

Coronavirus disease 2019 (COVID-19) was initially characterized by respiratory system manifestations. Yet, manifestations of the nervous system such as headache, dizziness, anosmia, ageusia, and loss of appetite have been recognized during COVID-19 pandemic [9].

METHODS

The data were extracted from electronic records in Covid-19 Emergency Response Centre (CERC) in Tripoli through Zendesk Software. CERC is a call center offer a free line (1448) in cooperation with Libya Telecom and Technology Co. (LTT); in order to detect and trace, and provide information to suspected COVID-19 patients in Libya. The data of characteristic features were recorded by physicians of the center. Electronic records were reviewed and data were extracted for demographics and medical characteristics of COVID-19 cases.

Patients were confirmed through reverse-transcriptase polymerase-chain-reaction test (RT-PCR) performed on a nasopharyngeal swab. This case series study evaluated 325 confirmed COVID-19 infected patients who contacted with CERC from the period of October 20, 2020, to November 30, 2020. Data was analyzed by using SPSS version 26.

RESULTS

Total of 325 COVID-19 patients was included in this case series study. Majority of patients (59%) were ≥ 50 years old and 60% were men and 40% were women. Table (1) illustrates the patients' demographics. Most patients presented with respiratory symptoms such as fever (55%), shortness of breath (SOB) (66%) and cough (51%). Neurological symptoms were second-most common presenting compliant such as headache (24.3%) and loss of smell and taste (24%).

Table (1) Patients' Demographics

	№ Of Patients (%)
Personal demographics	
Total number	325
Age	
Mean (SD)	57.6 (19.1)
20-29	27 (8)
30-39	55 (17)
40-49	51 (16)
50+	192 (59)
Range	20-101
Gender	
Male	194 (60)
Female	131 (40)

Gastrointestinal symptoms were the third-most common clinical features such as loss of appetite (15.7%), diarrhea (11.4%) and vomiting (10.8%). Table (2) arranges the features in the descending order according to the symptoms' frequencies.

Table (2) Patients' Clinical characteristics

		№ Of Patients (%)
Clinical Presentation (Symptoms)		
1	SOB	215 (66.2%)
2	Fatigue	199 (61.2%)
3	Fever	179 (55.1%)
4	Cough	165 (50.8%)
5	Headache	79 (24.3%)
6	Anosmia and Ageusia	78 (24%)
7	Loss of Appetite	51 (15.7%)
8	Sore Throat	42 (12.9%)
9	Diarrhoea	37 (11.4%)
10	Vomiting	35 (10.8%)
11	Runny Nose	24 (7.4%)

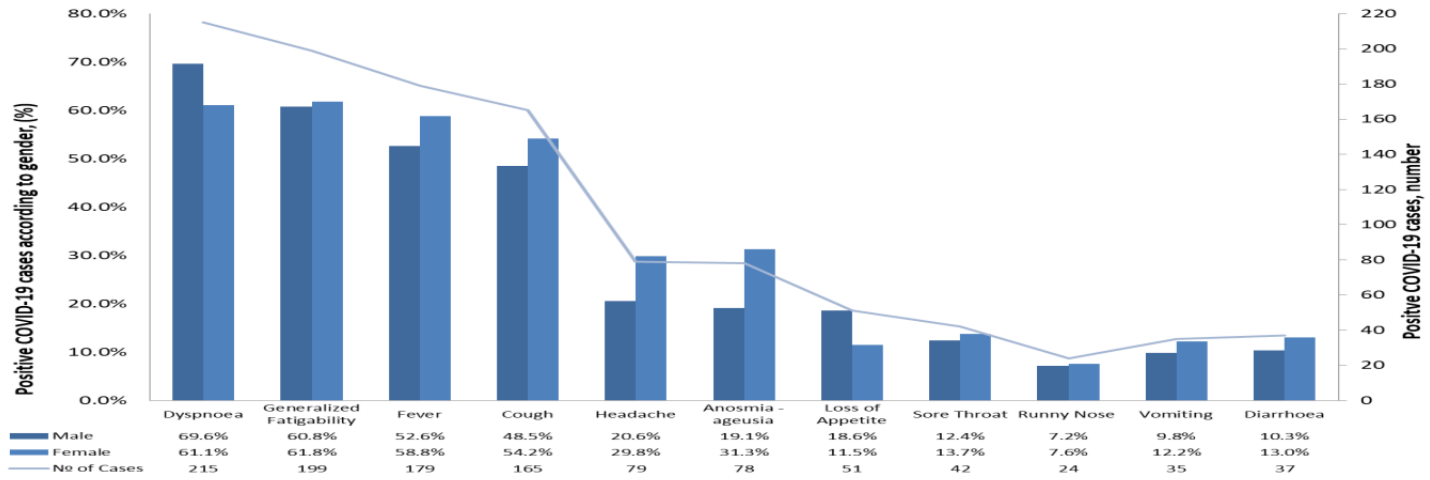
DISSCUSION

In this descriptive case series study, we analyzed a large series of patients who were confirmed had COVID-19 infection. As of December 01, 2020, there have been 1,200 deaths and 84,087 confirmed cases of COVID-19 in Libya [10]. Early identification and detection of the disease to reduce the outbreak is crucial importance, and will bring a value in helping clinicians to identify patients at an early stage by being aware of some of the alarming clinical characteristics presented by patients before they tested positive by COVID-19. In our study, the mean (SD) age of infected patients was 57.6 (19.1) years, range (20-101), with 59% are ≥ 50 years and 194 (60%) were male and 131 (40%) were female patients.

Furthermore, our study found that the most common features were shortness of breath 215 (66%), generalized fatigability 199 (61%), fever 179 (55%), and cough 165 (51%), which was similar to many earlier studies conducted on COVID-19 patients and reported a similar range of clinical characteristics [11-14]. The present study also reported that the neurological symptoms were the second-most common clinical characteristics in our patients such as, anosmia and ageusia 78 (24%) and headache 79 (24.3%). Gastrointestinal symptoms were the third-most common clinical features such as loss of appetite (15.7%), diarrhea (11.4%) and vomiting (10.8%).

By increasing age categories the patients reported at least one of the following features: dyspnea, generalized fatigability, cough, and loss of appetite with high percentages. However, the "20-29 years" category reported 70.4% fever and 48.1% anosmia and ageusia. The Figure (2B) has illustrated the clinical characteristics of Covid-19 positive cases according to the age of patients.

A



B

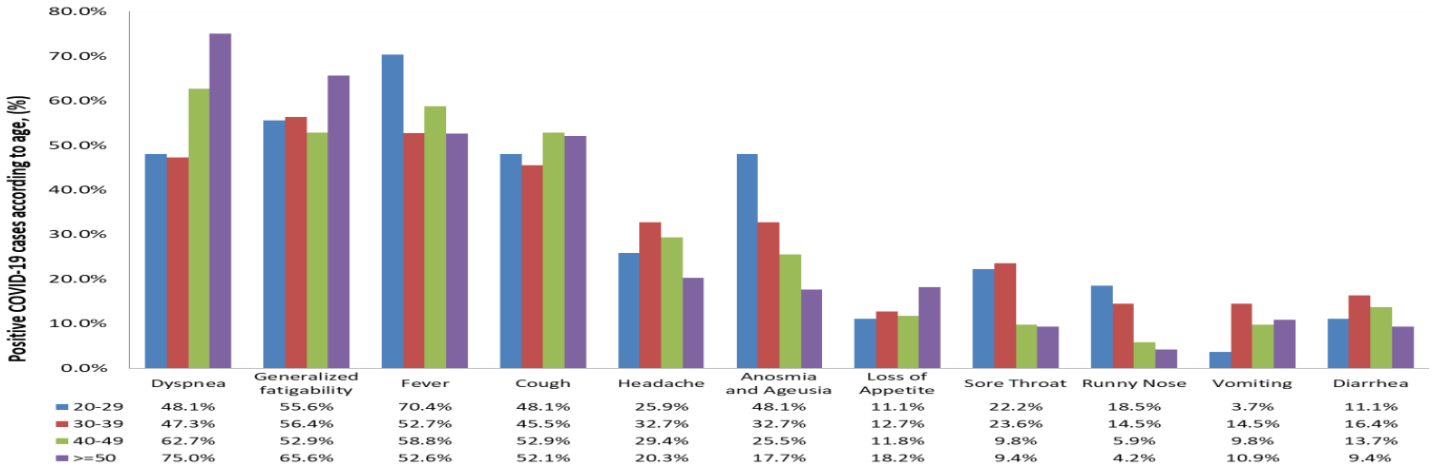


Fig (2) Prevalence of clinical features among Libyan patients diagnosed with COVID-19 infection according to gender A or age B. The clinical features are illustrated in the x-axis, the prevalence of each on according to gender or age represented on the y-axis (percentage). The total number of the patient in the (A) represented on the right y-axis (number)

Table (3) Clinical characteristics according to the gender

Symptom	Percentage for both genders	Frequency for both genders	Male (n=194)		Female (n=131)	
			Frequency	Percent	Frequency	Percent
Fever	55.1%	179	102	52.6%	77	58.8%
Cough	50.8%	165	94	48.5%	71	54.2%
Dyspnoea	66.2%	215	135	69.6%	80	61.1%
Generalized Fatigability and Body Aches	61.2%	199	118	60.8%	81	61.8%
Loss of Smell and Taste	24.0%	78	37	19.1%	41	31.3%
Sore Throat	12.9%	42	24	12.4%	18	13.7%
Headache	24.3%	79	40	20.6%	39	29.8%
Runny Nose and Nasal Congestion	7.4%	24	14	7.2%	10	7.6%
Vomiting	10.8%	35	19	9.8%	16	12.2%
Diarrhoea	11.4%	37	20	10.3%	17	13.0%
Loss of Appetite	15.7%	51	36	18.6%	15	11.5%

CONCLUSION

In summary, the most common clinical features in our study were the respiratory symptoms such as shortness of breath (66%), fever (55%), and cough (51%). Generalized fatigability was reported as the second common symptom (61%). This case series demonstrated that the characteristics of Libyan COVID-19 patients were generally similar to what is published in other literatures regarding the neurological symptoms such as anosmia and ageusia (24%) and gastrointestinal symptoms such as loss of appetite (16%), and diarrhea and vomiting (11%).

Disclaimer

The article has not been previously presented or published, and is not part of a thesis project.

Conflict of Interest

There are no financial, personal, or professional conflicts of interest to declare.

Contributors

Khalifa E. had the idea for and designed the study and contributed to writing the manuscript and statistical analysis with an assistance of Omrani E. Omrani E and Bashagha M. took the responsibility for check the accuracy of the data.

Acknowledgement

The authors thank CERC administration who supported the study. Thanks goes also to the medical staff in CERC who received the phone calls, provided the medical advices and services for the patients.

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