Libyan Journal of Medicine

ISSN: 1993-2820 (Print) 1819-6357 (Online) Journal homepage: www.tandfonline.com/journals/zljm20

Travel during COVID-19 pandemic in Libya: reasons of travel, disease importation and travel regulations

Ahmad M. Ramadan, Khaled M Ibrahim, Saadeddin Mohammed Belaid, Mohamed Salem Abusanina, Mohammed Ben Elfghi, Elmundr Abughnia, Ahmed Elkikkli, Inas M Alhudiri & Adam Elzagheid

To cite this article: Ahmad M. Ramadan, Khaled M Ibrahim, Saadeddin Mohammed Belaid, Mohamed Salem Abusanina, Mohammed Ben Elfghi, Elmundr Abughnia, Ahmed Elkikkli, Inas M Alhudiri & Adam Elzagheid (2021) Travel during COVID-19 pandemic in Libya: reasons of travel, disease importation and travel regulations, Libyan Journal of Medicine, 16:1, 1994740, DOI: 10.1080/19932820.2021.1994740

To link to this article: https://doi.org/10.1080/19932820.2021.1994740

© 2021 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.

Published online: 25 Oct 2021.

Submit your article to this journal

Article views: 1298

View related articles

View Crossmark data

Citing articles: 1 View citing articles

Full Terms & Conditions of access and use can be found at
https://www.tandfonline.com/action/journalInformation?journalCode=zljm20

LIBYAN JOURNAL OF MEDICINE
2021, VOL. 16, 1994740
https://doi.org/10.1080/19932820.2021.1994740

Taylor & Francis
Taylor & Francis Group

OPEN ACCESS Check for updates

Travel during COVID-19 pandemic in Libya: reasons of travel, disease importation and travel regulations

Ahmad M. Ramadan[a], Khaled M Ibrahim[a], Saadeddin Mohammed Belaid[b], Mohamed Salem Abusanina[b], Mohammed Ben Elfghi[b], Elmundr Abughnia[b], Ahmed Elkikkli[a], Inas M Alhudiri[a] and Adam Elzagheid[a]

[a]Genetic Engineering Department, Biotechnology Research Center, Tripoli, Libya; [b]Microbiology Department, Biotechnology Research Center, Tripoli, Libya

ABSTRACT

Restriction of mobility between countries is an important regulatory measure to combat pandemics such as the coronavirus disease 2019 (COVID-19). Currently, PCR testing is required to enter the Libyan borders. However, no post-travel quarantine is employed. In this report, we briefly discuss travel regulations in Libya during the COVID-19 pandemic and disease importation by travelers. The results showed that almost half of the sample travel because of health care and therapy reasons. Tunisia was the most visited destination mainly for trading and business and receiving healthcare. Importantly, 13% of asymptomatic travelers were SARS-CoV-2 positive. Issues regarding repeated testing among very frequent travelers and variant importation needs to be addressed in a more efficient manner.

ARTICLE HISTORY
Received 20 July 2021
Accepted 14 October 2021

KEYWORDS
Travel during pandemics; disease importation; travel policy

1. Introduction

Restriction of mobility between countries is an important regulatory measure to combat pandemics such as the coronavirus disease 2019 (COVID-19). Indeed, most countries have restricted international travel since the announcement of the COVID-19 as a pandemic by the WHO [1,2]. Nevertheless, restriction durations and destinations varied depending on countries' regulations and COVID-19 cases surge. Travel bubbles, which means the opening of travel to certain countries only, and global surveillance of the disease dynamics are now used by several countries in accordance with the pandemic [3].

In this correspondence, we briefly discuss some issues regarding travel regulations in Libya during the COVID-19 pandemic, and the impact of traveling on disease importation.

2. Regulations for incoming travelers

In Libya, international travel was banned on the 16 March 2020. Measures to reduce disease importation included mandatory quarantine for 14 days in dedicated facilities like hotels, followed by an RT-qPCR testing for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2); the causing virus of COVID-19. Air travel reopening was announced in the last week of July [4,5].

Currently, PCR testing is required to enter the Libyan borders, yet no post-travel quarantine is employed despite its recommendation by the American Center for Disease Control and Prevention [6]. Routine asymptomatic testing post-travel is essential in minimizing infectious disease importation, and the current regulations are insufficient to mitigate the risk [7]. Nevertheless, the Libyan civil aviation authority has taken several measures to ensure the maximum possible safety for the passengers and the airport workers. These measures include wearing face masks at all time, keeping physical distance, self-hygiene and temperature testing [8].

3. Travel regulations at major destinations of Libyan travelers

Generally, all countries ask for a negative SARS-CoV-2 PCR test done within 72 hours before arriving. Libyan travelers to Tunisia are asked to provide test results upon arrival. Moreover, Tunisian government require self-quarantine for 5 days before a mandatory second test. It is worth mentioning the importance of Tunisia for Libyan travelers as both a gateway to other countries, and a crucial destination for medical tourism [9,10].

Since the opening of air travel, Libyans were able to travel to Turkey without any regulations regarding COVID-19. However, Turkey declared new restrictions on Libyan travelers on the 26th of December 2020. The new measures require PCR testing, but no quarantine period is required [11].

4. Description of Libyan travelers

We here present a description of travelers tested using RT-qPCR in the Biotechnology Research Center

CONTACT Ahmad M. Ramadan ahmad.ramaddann@gmail.com Genetic engineering department, Biotechnology Research Center, Tripoli, Libya
This article has been republished with minor changes. These changes do not impact the academic content of the article.

© 2021 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.
This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial License (http://creativecommons.org/licenses/by-nc/4.0/), which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

laboratories in Tripoli during January 2021. A short questionnaire was used to collect information about the reasons for travel, destination, way of traveling, and some other demographic data (Table 1). The data was collected for samples submitted to the laboratory from several sample collection teams from cities in western Libya. The status of traveling was reported by the collection teams and then recorded separately using the questionnaire.

Health care and therapy were the major (49.5%) purpose of travel. Travelers from Al-jmail city represented 44% of the tested travelers in January 2021. Almost all of them (98%) intended to travel by road to Tunisia, and 63% intended to travel because of business and trading. This indicates a need for attention and handling of travelers from cities close to Tunisia, because of its trading importance. Travelers from Al-Jmail (42.8%) and Al-Zawia (25.4%) were more than travelers from Tripoli (22.8%). This bias had mainly occurred because more travelers from Al-Jmail was tested during the period of sample collection, not because Al-Jmail city has more travelers than Tripoli in general(Table 2).

On average, 12.7% of the asymptomatic travelers were SARS-CoV-2 positive. The percentage differed between cities. Travelers from Al-Zawia city showed the highest percentage of positive asymptomatic cases (15%), followed by Tripoli (14%) and then Al-Jmail city (11%). However, these results were not statistically significant ($p > 0.05$).

Table 1. Description of travelers tested using RT-qPCR at Biotechnology Research Center laboratories during January 2021 (n = 781).

		Mean	%	95% Lower CI	95% Upper CI
Age (Years)		39		37	40
Gender	Male		79.4%	76.4%	82.1%
	Female		20.6%	17.9%	23.6%
Method of travel	By Road		84.9%	82.2%	87.3%
	By Air plane		15.1%	12.7%	17.8%
City	Al-Jmail		42.8%	39.2%	46.4%
	Al-Zawia		25.4%	22.3%	28.6%
	Tripoli		22.8%	19.8%	25.9%
	Al Garaboli		2.7%	1.7%	4.1%
	Zolton		1.9%	1.1%	3.1%
	Other		4.4%	1.7%	10.1%
Travel destination	Tunisia		81.6%	78.7%	84.2%
	Not provided		15.4%	13.0%	18.0%
	Egypt		1.5%	0.8%	2.6%
	Turkey		0.8%	0.3%	1.6%
	Other		0.5%	0.1%	2.4%
PCR result	Negative		87.3%	84.8%	89.5%
	Positive		12.7%	10.5%	15.2%
Purpose of travel	Health care		49.5%	45.7%	53.4%
	Business		30.9%	27.4%	34.5%
	Work		14.3%	11.7%	17.1%
	Companion		4.2%	2.8%	6.0%
	Study		1.1%	0.5%	2.1%

Table 2. Percentage and confidence interval levels for PCR test results regarding city of residence and purpose of travel.

		Positive			Negative		
		%	95% CL		%	95% CL	
City	Tripoli	86.1%	80.3%	90.8%	13.9%	9.2%	19.7%
	Al-Zawia	85.3%	79.7%	89.9%	14.7%	10.1%	20.3%
	Al-Jmail	88.8%	84.9%	91.9%	11.2%	8.1%	15.1%
	Al Garaboli	85.0%	65.1%	95.6%	15.0%	4.4%	34.9%
	Zolton	92.9%	71.2%	99.2%	7.1%	0.8%	28.8%
Purpose of travel	Health care	86.8%	82.7%	90.2%	13.2%	9.8%	17.3%
	Business	88.9%	84.0%	92.7%	11.1%	7.3%	16.0%
	Work	88.0%	80.3%	93.5%	12.0%	6.5%	19.7%
	Companion	85.2%	68.5%	94.8%	14.8%	5.2%	31.5%
	Studying	100.0%			0.0%		

It is noteworthy that most of the travelers to Tunisia go back within a short period of time due to continuous business and trading movement. This might suggest vaccinating this type of travelers and employing the so-called 'vaccine passport' rather than repeatedly testing them. This might reduce the overall cost and decrease the chance of disease importation. However, employing such a system requires several important measures starting from arranging a collaboration agreement with Tunisia and other highly frequent traveling destinations and border countries. Also, all managerial processes have to be designed and employed in a way that prevent abuse and forgery.

5. Challenges and obstacles

Travel is a major route for transmitting diseases worldwide. It presents a challenge in controlling COVID-19 outbreak in Libya, especially with the civil conflict, the government division and weak border management and restrictions. Indeed, Libyan border regulations lacks quarantine period after arrival, and the forgery of PCR test certificates is widely practiced. Furthermore, the delay of the vaccine distribution increased the risk of importing the disease and increasing the infection spread.

Newly emerged variants of concern (VOC) and their importation by traveling is another issue. Tunisia, the most visited destination for Libyans, has reported the presence of the VOC 202012/01 (B.1.1.7, UK variant) on 22nd of February 2021, and then confirmed it on 2nd of March 2021 [12,13]. The Libyan National Center for Disease Control announced the presence of the UK variant on 25th of February [14]. Another variant, the VOC 202012/02 (B.1.351, South African variant), was then reported by the Libyan National Center for Disease Control in Misrata in the 17th of March [15].

On 15 June 2021 onwards, in our laboratories in Biotechnology Research Center, Tripoli, Libya, routine screening for SARS-CoV-2 variants using TaqPath assay showed a change in detected viral gene pattern in positive samples suggesting the emergence of a new variant. Unfortunately, this variation is not yet

classified by sequencing or officially reported by the authorities. However, it coincided with the discovery of the Delta strain in Tunisia [16].

Most countries tightened their travel regulations after the spread of the new variants [17,18]. Nevertheless, the Libyan authorities have not employed any measures to reduce the importation of the new strains, despite their increased risks [16,19,20].

Importation of higher severity, higher transmissibility and antibody-resistant newly emerging SARS-CoV-2 strains is a pressing problem facing authorities, travel regulators in particular. Frequent travelers are of special interest regarding the risk of disease importation and the cost of repeated testing. Hence, vaccination of this category might be of special importance. More strict travel regulations and a period of self-quarantine may be crucial in reducing COVID-19 importation.

Inadequate data collection and sample reporting had a adverse effect on the quality of the results. Indeed, due to managerial flaws and overwhelming work, data collection was carried out only for a short period and for deficient samples. Nevertheless, the sample represents a certain period and a specific group of travelers. Moreover, this report is the only communication from Libya regarding the issue.

Disclosure statement

No potential conflict of interest was reported by the author (s).

Funding

The author(s) reported there is no funding associated with the work featured in this article.

Ethical approval

A form was used to collect de-identified data. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This study was approved by the Biotechnology Research Center Bioethics Committee.

Author contributions

Data collection: SMB, MBE, MSA, AE, EA.
Conceptualizing and Writing: AMR, KMI.
Statistical analysis: AMR.
Revision and financial support: IA, AE

ORCID

Inas M Alhudiri http://orcid.org/0000-0002-3371-0215

References

[1] Fauci AS, Lane HC, Redfield RR. Covid-19 — navigating the uncharted. N Engl J Med. 2020;382(13):1268–4.
[2] Mahase E. Covid-19: WHO declares pandemic because of “alarming levels” of spread, severity, and inaction. BMJ. 2020;368(March):m1036.
[3] The Lancet Infectious Diseases. Air travel in the time of COVID-19. Lancet Infect Dis. 2020;20(9):993.
[4] Libya: Authorities announce on July 21 that Mitiga Airport will reopen in August. Garda World. 2020 Jul 21. Available from: https://www.garda.com/crisis24/news-alerts/361651/libya-authorities-announce-on-july-21-that-mitiga-airport-will-reopen-in-august
[5] Zaptia S. Misrata Airport to reopen by Sunday 26 July exclusively for departing passenger. Libya Herald. 2020 Jul 20. Available from: https://www.libyaherald.com/2020/07/20/misrata-airport-to-reopen-by-sunday-26-july-exclusively-for-departing-passengers/
[6] CDC. Testing and International Air Travel. 2020 Dec 2. Available from: https://www.cdc.gov/coronavirus/2019-ncov/travelers/testing-air-travel.html
[7] Kiang MV, Elizabeth TC, Benjamin QH, et al. Routine asymptomatic testing strategies for airline travel during the COVID-19 pandemic : a simulation analysis. MedRxiv. 2020;11. 2020.12.08.20246132. DOI:10.1101/2020.12.08.20246132
[8] LYCAA. Guide - safety measure in flight operations. Libyan Civil Aviation Authority. 2020 June 2. Available from: https://caa.gov.ly/en/covid-19-information/lycaa/
[9] El Taquri A. Medical tourism and the Libyan National Health Services. Libyan J Med. 2007;2(3):109–110.
[10] Libyans travel to Tunisia for treatment. International Medical Travel Journal. 2019 Apr 16. Available from: https://www.imtj.com/news/libyans-travel-tunisia-treatment/
[11] Golden R. Turkey imposes new measures on travellers due to Coronavirus pandemic. The Libya Observer. 2020 December 26. Available from: https://www.libyaobserver.ly/inbrief/turkey-imposes-new-measures-travellers-due-coronavirus-pandemic
[12] Al-Thabti A. UK virus strain detected in Tunisia. Anadolu Agency. 2021 Mar 2. Available from: https://www.aa.com.tr/en/latest-on-coronavirus-outbreak/uk-virus-strain-detected-in-tunisia/2162626#
[13] Saidani M. Tunisia reports two COVID-19 variant cases. Asharq AL-Awsat. 2021 Feb 22. Available from: https://english.aawsat.com/home/article/2820356/tunisia-reports-two-covid-19-variant-cases
[14] Alharathy S. Libya reports first UK Covid-19 variant. The Libya Observer. 2021 Feb 25. Available from: https://www.libyaobserver.ly/health/libya-reports-first-uk-covid-19-variant
[15] Zaptia S. Libya announces first discovery of the South African Coronavirus variant. Libya Herald. 2021 Mar 18. Available from: https://www.libyaherald.com/2021/03/18/libya-announces-first-discovery-of-the-south-african-coronavirus-variant/
[16] Collier DA, De Marco A, Ferreira IATM, et al. Sensitivity of SARS-CoV-2 B.1.1.7 to mRNA vaccine-elicited antibodies. Nature. 2021;593(7857):136–141.

[17] Bonney-Cox S. European travel restrictions: non-essential travel curbed. DW. 2021 Mar 21. Available from: https://www.dw.com/en/european-travel-restrictions-non-essential-travel-curbed/a-56350272

[18] Whitley A, Park K. Fears of new COVID variants lead to lengthier travel quarantines. Al Jazeera. 2021 Feb 24. Available from: https://www.aljazeera.com/economy/2021/2/24/bb-fearsofnew-covid-variants-lead-to-lengthier-travel-quarantines

[19] Kidd M, Richter A, Best A, et al. S-variant SARS-CoV-2 lineage B1.1.7 is associated with significantly higher viral loads in samples tested by ThermoFisher TaqPath RT-qPCR. J Infect Dis. 2021;44:1–16.

[20] Rathnasinghe R, Jangra S, Cupic A, et al. The N501Y mutation in SARS-CoV-2 spike leads to morbidity in obese and aged mice and is neutralized by convalescent and post-vaccination human sera. MedRxiv. 2021. DOI:10.1101/2021.01.19.21249592