Journal of Contemporary Studies in Epidemiology and Public Health
2022, 3(1), ep22004
ISSN 2634-8543 (Online)
https://www.jconseph.com/

Letter to Editor

OPEN ACCESS

Impact of Overlapping Disaster in Turkey: COVID-19 Pandemic and Wildfires

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Citation: Taseen S, Abbas M, Munir F, Ullah I, Tahir MJ. Impact of Overlapping Disaster in Turkey: COVID-19 Pandemic and Wildfires. Journal of Contemporary Studies in Epidemiology and Public Health. 2022;3(1):ep22004. https://doi.org/10.29333/jconseph/12063

ABSTRACT

The current pandemic has highlighted the vulnerability of healthcare systems all over the world. Turkey experienced more than 130 brutal episodes of wildfires of history. According to a report, eight people died, more than 50 were hospitalized, and thousands of residents and tourists were evacuated. The wildfire impacted the healthcare facilities of Turkey directly as well as indirectly, exerting extra strain on an already overburdened system. In this article, we made some recommendations to combat the catastrophe aiming to unburden the healthcare system of Turkey.

Keywords: COVID-19, health system, wildfire, Turkey

Received: 17 Jan. 2022 ◆ Accepted: 16 Apr. 2022

To the Editor,

The current coronavirus disease 2019 (COVID-19) pandemic has highlighted the vulnerability of public healthcare systems worldwide. It is estimated that Turkey has over 5.4 million diagnosed cases of COVID-19 [1]. The pandemic has mounted a tremendous burden and workload on the Turkish healthcare systems, primarily on respiratory medicine facilities. An overall rate of hospitalization is significantly reported to be risen from 5.13%, before the pandemic, to 7.04% during the pandemic [2].

It is estimated that more than 130 episodes of wildfires have been reported across the country, with around 136,000 hectares of land being burned. Firefighting operations included at least 13 planes, 45 helicopters, and 828 fire-fighter vehicles [3]. According to Turkey's Health Minister, an estimated eight people died, more than 50 required hospitalizations, and thousands of residents and tourists had to be evacuated [4].

Healthcare professionals and hospitals in Turkey are still fighting the COVID-19 pandemic on the frontlines. While the number of COVID-19 cases has just begun to decline, the public health systems get smashed by other emergencies, exerting extra strain on an already overburdened system.

The impact of wildfires on healthcare facilities might be direct as a result of damage to support services and infrastructure of the healthcare sector or indirect as a result of damage to the event including the patients surge with injuries and the increased demand for health facilities, primarily due to the involvement of respiratory tract, burns, and heat-induced conditions amongst the patients. Furthermore, the violated preventive measures of COVID-19, such as social distancing during wildfire due to mass evacuation and sheltering, can intensify severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) transmissions and COVID-19 hospitalization [5].

Wildfires events cause a great episode of generalized poor air quality in the affected area making a large population suffer. Wildfire smoke contributes significantly to an increase in a complex mixture of air pollutants and fine particulate matter ($PM_{2.5}$) in the atmosphere, resulting in an increase in air pollution. The increase in $PM_{2.5}$ from wildfire smoke resulted in a 6% increase in asthma-related hospital admissions [6,7]. $PM_{2.5}$ also enhances the pathogenicity of viruses by altering immune responses and promoting lungs damage, which increases susceptibility to SARS-CoV-2 by around 10% [8,9].

In the current worrisome situation of wildfire and pandemic in Turkey, the following suggestion should be considered to combat the catastrophe aiming to unburden the healthcare system:

i. Hospitals are required to produce crisis management guides, training, and simulation preparations to prepare for crises, and establish teams for effective use of resources to combat this devastating occurrence during the COVID-19 pandemic, and future health crises. It is essential to involve individuals who are vulnerable or disadvantaged in both COVID-19 and wildfires preparation.

ii. Overcrowding in shelters can significantly contribute to disease spread, thus the government of Turkey should increase the

number of shelters and maintain at least a 6-ft social distance for all shelter residents, imposing restrictive measures on shelter residents, enforcing isolation for all evacuees, and improving testing and quarantine procedures.

iii. Healthcare system should establish efficient approaches to address any shortages in staff, space, or supplies.

iv. Staying inside, wearing N95 respirators and a mask should be encouraged.

v. Free-standing air filter should be installed in the healthcare systems especially for patients suffering from asthma or other underlying respiratory illness.

vi. Sufficient supplies shall be provided to the medical staff such as hand sanitizer, gowns, respirators, and face shields in order to limit the spread of disease.

vii. All the necessary arrangements shall be made along with oxygen cylinders and ventilators to facilitate the patients immediately.

viii. Healthcare workers shall prioritize connecting and communicating with the patients and their relatives, since in-patients' visits are not allowed during the pandemic, active communication may help the patient to remain calm which may have a positive effect on their general wellbeing.

ix. To prevent the spread of disease during the evacuation process, ambulances designed specifically to evacuate COVID-19 patients should be redesigned, including specific routes for emergency vehicles, including all protective measures for evacuees and emergency staff.

Adoption of these measures will help to overcome this COVID-19 pandemic as well as help in reducing the mounting burden and workload placed on Turkish healthcare systems.

Author contributions: ST, IU, and MJT: conceived the idea; **ST, MA, and FM:** retrieved the data and did write up of letter; and **IU and MJT:** reviewed and provided inputs. All authors approve final version of the article.

Funding: The authors received no financial support for the research and/or authorship of this article.

Declaration of interest: Authors declare no competing interest.

Data availability: Data generated or analysed during this study are available from the authors on request.

REFERENCES

1. WHO. World Health Organization. 2021. Available at: https://www.who.int/countries/tur/ (Accessed: 7 August 2021).

2. Bilaceroglu S. Letter from Turkey: Impact of COVID-19 on respiratory diseases. Respirology. 2021;26(10):1001-3. (doi: 10.1111/resp.14124).

3. Battle against wildfires in Turkey's drought-hit areas continues. 2021. Available at: https://www.trtworld.com/turkey/battle-against-wildfires-in-turkey-s-drought-hit-areas-continues-48850 (Accessed: 7 August 2021).

4. Turkish Red Crescent. Information bulletin Turkey wildfires. report. 2021. https://reliefweb.int/report/turkey/information-bulletin-no1-turkey-wildfires-03082021 (Accessed: 7 August 2021).

5. Kiser D, Elhanan G, Metcalf WJ, Schnieder B, Grzymski JJ. SARS-CoV-2 test positivity rate in Reno, Nevada: Association with PM2.5 during the 2020 wildfire smoke events in the western United States. J Expo Sci Environ Epidemiol. 2021;31(5):797-803. (doi: 10.1038/s41370-021-00366-w).

6. Di Q, Wang Y, Zanobetti A, et al. Air pollution and mortality in the medicare population. N Engl J Med. 2017;376(26):2513-22. (doi: 10.1056/NEJMoa1702747).

7. Reisen F, Duran SM, Flannigan M, Elliott C, Rideout K. Wildfire smoke and public health risk. Int J Wildland Fire. 2015;24:1029-44. (doi: 10.1071/WF15034).

8. Cipolla M, Sorgenti M, Gentile C, Bishara MM. Air pollution and lung diseases. In: Capello F, Gaddi AV, editors. Clinical handbook of air pollution-related diseases. Switzerland: Springer Nature; 2018. p. 327-39. (doi: 10.1007/978-3-319-62731-1_18).

9. Kan H-D, Chen B-H, Fu C-W, Yu S-Z, Mu L-N. Relationship between ambient air pollution and daily mortality of SARS in Beijing. Biomed Environ Sci. 2005;18(1):1-4.