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.

ARTICLE IN PRESS
+ MODEL
Journal of the Formosan Medical Association xxx (xxxx) xxx
Available online at www.sciencedirect.com
ScienceDirect
journal homepage: www.jfma-online.com

Correspondence

Novel coronavirus outbreak in Pakistan: Beware of dengue

The novel coronavirus (COVID-19) pandemic originated in Wuhan, China has become a serious public health crisis for the developed and developing world. As of July 07, 2020, a total of 11,748,782 confirmed cases including 540,858 deaths have been reported across the globe.[1]

The COVID-19 toll in Pakistan is expanding since its first detection on 26 February 2020, now reached at 234,509 laboratory confirmed cases including 4839 deaths as of July 07, 2020.[1]

Importantly, Pakistan is endemic for dengue virus for the last 30 years. According to the Ministry of National Health Services, Regulations and Coordination, the number of dengue cases spiked by almost 15 fold from 3,204 cases in 2018 to 47,120 cases in 2019, however the actual number is presumed to be much higher than reported.[2] Likewise, in 2020, 416 confirmed dengue cases have appeared much earlier ahead of the peak season during the post-monsoon months.[3]

The unusual early appearance of dengue in Pakistan further calls for actions and early response to this outbreak-prone disease known to played havoc in Pakistan accounting for 90,400 cases and 169 deaths between 2015 and 2019. Countries with fragile healthcare systems like Pakistan need to prioritize regular and consistent disease surveillance and prevention programs including a national epidemic control center utilizing the modern technological support to detect, track and manage infections early on.

For many countries, the COVID-19 outbreak set the stage for self-evaluation of their healthcare systems. The peak of COVID-19 outbreak in Pakistan is forecasted to occur by July,[4] the appearance of dengue cases in May has further deteriorated the situation indicating an overwhelmed needs for surveillance and case management in terms of hospital capacity and vector control measures. An important factor for efficient disease management involves the understanding of clinical manifestations to differentiate between COVID-19 and dengue reported with overlapping clinical presentation in diseased individuals including fever, rash, headache, muscular aches etc.

Due to similarity in clinical symptoms, co-infection of dengue and coronavirus has started to appear in Singapore and Thailand: the two dengue endemic countries.[5] Considering the outbreak of coronavirus and dengue reaching their peak simultaneously, the ill equipped health care system in Pakistan requires stringent interventions on emergency grounds. Despite the limited available resources, Pakistan is trying hard to contain COVID-19 outbreak through lockdowns of highly-infected areas, contact tracing and ban on social gatherings. In the current scenario, under-reporting of COVID-19 cases is expected owing to lack of testing facilities, trained laboratory professionals and limited surveillance networks for active case search. Considering Pakistan as an endemic country for rash associated viral infections such as dengue, chikungunya, rubella and other vaccine preventable diseases like measles, a battery of diagnostic testing should be considered for perfect diagnosis of COVID-19 and related viral infections with temporal coincidence and outbreak potential.

Considering the insufficient resources allocated annually for healthcare budget and the overwhelmed burden of seasonal infectious diseases such as dengue infecting thousands each year, Pakistan needs to establish a sustainable surveillance and response mechanism at a national scale. Although 100 billion cost budget was allocated to contain SARS-CoV-2 pandemic, the mosquito control measures should equally be implemented consistent with the highly dispersed dengue infections across the country.

In addition, the awareness campaigns among the general public focusing preventive and control measures are urgently required demonstrating how to keep safe from COVID-19 and dengue infections that have started to prevail simultaneously in Pakistan.

Declaration of Competing Interest

The authors have no conflicts of interest relevant to this article.

https://doi.org/10.1016/j.jfma.2020.07.027

Please cite this article as: Rana MS et al., Novel coronavirus outbreak in Pakistan: Beware of dengue, Journal of the Formosan Medical Association, https://doi.org/10.1016/j.jfma.2020.07.027

References

1. COVID-19 Coronavirus Pandemic. Available at: https://www.worldometers.info/coronavirus/ Accessed date: July 07, 2020.
2. Rana MS, Alam MM, Salman M, Ikram A. Prevention and control of escalating dengue epidemics in Pakistan. *J Med Virol* 2020 Aug. https://doi.org/10.1002/jmv.25635.
3. PAKISTAN CONFIRMS 416 DENGUE CASES IN 2020; Available at :https://dailytimes.com.pk/582988/shaan-shahid-plays-the-role-of-a-detective-fed-up-of-dengue/.
4. Covid-19 Cases to Peak in Country Between June 21-28, Likely to Cross 7k Per Day: Available at :https://www.news18.com/news/india/covid-19-cases-to-peak-in-country-between-june-21-28-likely-to-cross-7k-per-day-study-2632535.html.
5. Wu D, Lu J, Liu Q, Ma X, He W. To alert coinfection of COVID-19 and dengue virus in developing countries in the dengue-endemic area. *Infect Control Hosp Epidemiol* 2020:1. https://doi.org/10.1017/ice.2020.187.

Muhammad Suleman Rana*
Aamer Ikram
Muhammad Masroor Alam
Muhammad Salman
National Institute of Health, Islamabad, Pakistan

*Corresponding author. Department of Virology, National Institute of Health, Park Road, Chak Shehzad, Islamabad 45500, Pakistan.
E-mail addresses: ranavirologist@gmail.com (M.S. Rana), maahin1@yahoo.com (A. Ikram), ursmasroor@yahoo.com (M.M. Alam), salman14m@gmail.com (M. Salman)

4 June 2020

Please cite this article as: Rana MS et al., Novel coronavirus outbreak in Pakistan: Beware of dengue, Journal of the Formosan Medical Association, https://doi.org/10.1016/j.jfma.2020.07.027