



Possible threat of the Omicron subvariant BF.7 to FIH Hockey World Cup 2023 in particular and the South-East Asia Region in general

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Dear Editor,

The deadly severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is mutating constantly, creating numerous variants and subvariants, a process known as convergent evolution^[1]. Just about 3 years after the first report of SARS-CoV-2, another subvariant BF.7 (of the Omicron family), is spreading rapidly in many countries worldwide, particularly in the Asia-Pacific region. This BF.7 subvariant with a mutated s-protein (R346T) is believed to be responsible for its high transmissibility, greater infectivity and the ability to evade the immune system. BF.7 has short incubation and high reinfection (the breakthrough; in the vaccinated individuals) capacity. The growth value of BF.7 is allegedly higher ($R_0 = 10-18$) than that of the native Omicron ($R_0 = 5-6$), which means that BF.7 is two to three times more infectious than the parent Omicron.

*It is noteworthy that a case of BF.7 was identified in Bhubaneswar (India), the venue of the upcoming FIH World Cup 2023. BF.7 (the short form of BA 5.2.1.7), a sublineage of BA.5, is now a dominant strain in China. Long before the global concern over Omicron subvariant BF.7 in the backdrop of the current surge in China, Odisha also reported the strain (BF.7) in a sample collected on 30 September 2022. Further, no BF.7 has been detected in any samples in Odisha ever since. However, the state government stepped up surveillance in light of the latest advisory

HIGHLIGHTS

- The 2023 Men's FIH (Hockey) World Cup is scheduled to be held in the wake of two concurrent public health emergencies (coronavirus disease 2019 and Monkeypox) between 13 and 29 January 2023 in India.
- Subvariant BF.7 (of the Omicron family) is spreading rapidly in many countries worldwide, particularly in the Asia-Pacific region.
- One BF.7 infected person may spread the virus to nearly 10–18 persons.

by the Government of India. The on-demand RT-PCR genome sequencing of the sample done at the Regional Medical Research Centre, Bhubaneswar, from the affected woman, who was in her 30s travelling to the USA, reported BF.7 positive. She was asymptomatic during testing she and her family left for the USA then and have been there since October, with no one having any flu-like symptoms since their departure from India. An advisory was issued by the local health secretary to the health centres in all 30 districts for increased surveillance and the whole genome sequencing of positive cases to track the variants. The government asked district authorities to test, track, treat, contact-trace, vaccinate and encourage coronavirus disease (COVID)-appropriate behaviour. The local positive cases at the FIH World Cup 2023 venue shall be tested at the Regional Medical Research Centre, Bhubaneswar and the Institute of Life Sciences, Bhubaneswar.

The upcoming 2023 Men's FIH (Hockey) World Cup is scheduled to be held in the wake of two concurrent public health emergencies (COVID-19 and Monkeypox). Hockey World Cup is a popular global sports carnival held every 4 years. This time the World cup is scheduled between 13 and 29 January 2023 to be held in the Odisha Province of thickly populated India. It will be organised at two venues: the Kalinga stadium in Bhubaneswar and Birsamunda International Hockey stadium in Rourkela. This is the second back-to-back World Cup carnival held in an Asian country after the FIFA World Cup-2022 in Qatar^[2]. In all, 16 countries will participate in this 17-day World Cup tournament. As a big international event, this World Cup is set to attract a huge number of visitors, tourists, fans and sports enthusiasts from across the world to the two small cities in the province. Of note, out of 16 countries, South Korea, Japan, Belgium, Germany, France, the UK (England, Wales) and Australia have significant numbers of BF.7 cases are also participating in this mega event (<https://www.nationalworld.com/health/what-is-covid-variant-bf7-new-strain-of-omicron-in-uk-is-it-variant-of->

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Sponsorships or competing interests that may be relevant to content are disclosed at the end of this article.

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International Journal of Surgery (2023) 109:646–647

Received 4 January 2023; Accepted 16 January 2023

Published online 16 February 2023

<http://dx.doi.org/10.1097/JS9.000000000000241>

concern-and-symptoms-explained-3874443). This is really a healthcare challenge in the ongoing COVID-19 and mpox outbreak scenarios. Any mass gathering is a serious health concern that could potentially spread highly transmissible diseases. In addition to this, the risk of seasonal flu during the winter and other transmissible disease risks like measles, diarrhoea and hepatitis A and B, as well as acquiring multidrug-resistant bacteria in such a floating population, cannot be ruled out^[3].

The 16 teams competing in this mega event are Australia, Argentina, Germany, the Netherlands, Belgium, New Zealand, England, France, Spain, South Africa, Chile, Wales, Malaysia, South Korea, Japan and the host country India. This FIH Hockey World Cup 2023 inevitably poses a potential three-pronged infectious disease risk: COVID-19 (particularly BF.7), mpox and seasonal flu. It calls for meticulous healthcare planning, management and a well-oiled risk assessment to avoid the spread of transmittable disease^[4]. Ramped-up tests and booster shots, and random screening of international flyers, are highly essential. Further, strict surveillance to detect new emerging variants that could possibly raise the cases locally and sporadically is also necessary. An adverse health incidence around the venue could put significant pressure on the healthcare system at local as well as global-scale. Like any mass gathering, this sports carnival could pose a real health threat, particularly in the face of the ongoing pandemic, and God forbid it may prove to be a superspreader affecting many in the general population. Fans, visitors and the general public may contribute to the transmission through possible imports from elsewhere. The recent surge in numerous countries has prompted India to step up precautionary measures to ensure the management of the transmission.

Currently, countries like China, South Korea, Japan and some European and Latin American countries have reported a spike in cases due to the BF.7 subvariant, and China is hardest hit (<https://www.nationalworld.com/health/what-is-covid-variant-bf7-new-strain-of-omicron-in-uk-is-it-variant-of-concern-and-symptoms-explained-3874443>). The BF.7 subvariant may manifest severe infection in people with weakened immunity, the elderly, and nonvaccinated individuals. As the subvariant spreads its wings during the winter, the circulating secondary viruses may further aggravate the impact of COVID-19. India is home to many comorbid cases, including those of the diabetic and the immunocompromised, which further pose a bigger transmission and infection risk^[5]. It is suggested to keep surveillance on the sewage waters in several cities for possible early signs. As the efficacy of the available over-the-counter vaccines against this novel BF.7 subvariant is debatable, following COVID-appropriate behaviour like wearing face masks and avoiding unnecessary crowding is advisable. The governments may make the use of face masks in public places mandatory. Government and the health authorities must use electronic and social media to approach the public at large to follow the COVID-appropriate behaviour.

Ethical approval

Not applicable.

Sources of funding

No funding received.

Authors' contribution

R.K.M. and A.M.: design and draw the original draft. S.M., A.A.R. and R.S.: review the literature, critically edit the manuscript. All authors read and approve for the final manuscript.

Conflicts of interest disclosure

No conflicts of interest.

Research registration unique identifying number (UIN)

1. Name of the registry: NA.
2. Unique identifying number or registration ID: NA.
3. Hyperlink to your specific registration (must be publicly accessible and will be checked): NA.

Guarantor

Ranjit Sah.

Data availability

All data are included in the manuscript.

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