LETTER TO THE EDITOR

Comments on “Transmission of SARS-CoV-2 virus and ambient temperature: a critical review” by Mu et al., 2021 (https://doi.org/10.1007/s11356-021-14625-8)

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Background

We read with interest the article entitled “Transmission of SARS-CoV-2 virus and ambient temperature: a critical review” by Mu et al. (2021). In support of this, we would like to expand more about the SARS-CoV-2 transmission during the pandemic situation and its potential prevention strategies.

Various emerging forms of the SARS-CoV-2 coronavirus have sparked worldwide concern. Since its start, the COVID-19 pandemic has had detrimental effects on the world, many of which have not yet subsided. People in most countries have been severely affected financially, emotionally, and health-wise. So far, multiple variants of SARS-CoV-2 (Alpha: B.1.1.7, Beta: B.1.351, Delta: B.1.617.2, Omicron: B.1.1.529, IHU: B.1.640, Gamma: P.1) have caused new waves of infections (Fig. 1). If there is anything that the ongoing pandemic has taught us, it is that preventing the transmission of the virus remains the best protocol to manage this. Strains of the virus that are able to transmit easily have an edge over the other strains (Lauring and Hodcroft 2021). Hence, these viruses will dominate the viral population and ensure that this trait survives over generations of mutations. If transmission among the hosts can be stopped, the chances of the virus retaining such virulence factors decrease. Furthermore, when the virus is able to infect an extensive population, the probability of the virus gaining newer immune evasion tactics also increases (El-Sayed and Kamel 2021). This, of course, makes the host population more susceptible to infection.

Factors associated with the forms of new COVID-19 variants

When several countries’ lockdowns were lifted, a high percentage of coronavirus variants were identified (Kirby 2021). This is because, after the corona virus pandemic has subsided, public gatherings without health awareness begin, and these locations become hotspots for new coronavirus variants. Moreover, in places where vaccination is inadequate, transmission is significant. For instance, a considerable 84.4% of the low-and-middle-income countries’ populations are unvaccinated (Our World in Data 2022). Recently, in a number of countries, visitors have been allowed to cross the border without reporting their health condition, and cultural or recreational events have been organized without considering health awareness. Besides, educational and business organizations are also regulating without maintaining adequate COVID-19 prevention protocols. All of these factors could have led to mutations, which could have led to many new variations.

Potential preventive strategies

Overall, it is clear that the ability of the virus to spread easily and its potential to cause a successful infection can be reduced by ensuring that the dissemination of the virus is stopped at the...
source. If the current relaxed restrictions continue, the world could face another catastrophe as a result of new variants. So, it is high time to take the necessary steps. First, even if no coronavirus cases have been detected and infection rates are still low, health awareness should be maintained. In such a situation, mass mobilization is not sustainable without the protection of public health. Second, we would suggest that screening the entire population in a high-case area is crucial. This is because when there are a large number of cases in a certain location, the likelihood of a large number of people in that area being sick but asymptomatic is significant (Karthika et al. 2021). Third, new cases/variants should be reported to national authorities and the World Health Organization. Fourth, travel bans in identified areas must be enforced or public health measures must be applied. Fifth, we must understand that this preparedness is not a burden and that we must adapt to the pandemic situation through awareness. Furthermore, governments need to promote vaccination more widely. That appears to be the most reliable method of dealing with the pandemic.

Finally, we urge each country’s authorities to develop and implement a rigorous strategy based on WHO guidelines (WHO 2021) in order to protect the public’s health and combat the pandemic. We would also suggest that it is urgent to conduct a study to find out the factors related to health protection negligence in COVID-19 and how to create interest in health awareness among the people in the community. This would help people in the community adopt different motivational strategies to follow the public health guidelines.

We encourage the media to make health-related information more engaging, educational, and effective so that the general public understands what needs to be done. This would positively affect the general population’s ability to use health interventions to prevent the spread of infections.

**Conclusions**

The outbreak has taught us that public health measures are essential for living a healthy life. Thus, the ideology should be that health awareness must be maintained consistently, whether there are viral disease outbreaks, or not.

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**Data availability** Not applicable.

**Declarations**

**Ethical approval** Not applicable.

**Consent to publish and participate** We give full consideration for publication and participation.

**Conflict of interest** The authors declare no competing interests.
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