



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.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



Contents lists available at ScienceDirect

## International Journal of Surgery

journal homepage: [www.elsevier.com/locate/ijso](http://www.elsevier.com/locate/ijso)

## Correspondence



## Omicron with threatened antagonistic consequences and are conveyed by new fangled risks – Correspondence

Dear Editor,

COVID-19 patients inundated the world's hospitals and morgues with wave after wave of SARS-CoV-2 variations, owing to the fact that not everyone had access to immunizations or was willing to get immunized [1,2]. According to the World Health Organization, initial investigation suggests that the Omicron coronavirus variety is less likely to cause serious disease than prior coronavirus variants, but this is based on inadequate indication. Omicron (B.1.1.529) is identical to the others. Preliminary studies suggest that the novel omicron variant BA.2 is 50% more contagious than the original omicron strain BA.1. omicron BA.1 seems to cause the same sickness and symptoms as omicron BA.2, but it appears to afflict younger people more frequently. Even while most scientists expected more instances in late 2021, it was surprising that those who had been vaccinated or infected might develop the new omicron type so easily and soon. This sparked a flurry of inquiries and led to a slew of studies. Is it not true that prevailing vaccines can still protect against SARS-CoV-2 infection [3–5]. Is omicron more contagious than other viral strains? Is it feasible to forecast the long-term penalties of Omicron's rapid expansion, which infected millions of people and resulted in numerous breakthroughs? Is it recovering or inferior to the delta version (B.1.617.2), dubbed the worst SARS-CoV-2 variation yet discovered? According to Tommy Nyberg and his colleagues in *The Lancet*, omicron infections can affect people who have been vaccinated, have been infected previously, or have not been immunized at all. This study included 637.6% of SARS-CoV-2 cases in England, making it the largest of its kind. A long-standing study indicated that the omicron form finally surpassed the delta variant to become the dominant form while the delta version was still alive. Nyberg and his colleagues discovered that the original omicron study had fewer instances than theirs [6]. This is due to the fact that early analysis was limited to smaller areas and hospitals in locations like South Africa [7], Denmark [8], Norway [9], and Scotland [10]. The initial large-scale sternness study was conducted on 1,516,702 COVID-19 individuals, with 1,067,859 of them having the omicron variant, according to Nyberg and his team. This was accomplished on 1/516,702. The findings of this investigation have been published in the *Journal Science Translational Medicine*. They were based on both epidemiological and genetic genomic data in this situation [9]. The delta virus's less unembellished illness (in comparison to the delta virus) and its capacity to evade immunizations are discussed in this paper. It turns out that the danger of being admitted to hospital and dying from omicron is much lower than the chance of being admitted to the hospital and dying from delta.

Nonentity is unsure whether Omicron is truly soft or if it appears soft because it is mostly infected with people who are immune to it, causing it to appear soft. It is not yet clear if this South African study is correct, but people who had been infected with the new coronavirus and had a

“breakthrough” case were 2.4% more likely to get infected again during this Omicron wave. Furthermore, Omicron appears to be better at getting around vaccines. Another preliminary study found a big drop in antibody neutralization in people who got Pfizer's injections. This means that Omicron needs a lot more antibodies than other strains. A study found that the virus could not completely overwhelm the body's defenses. Those who had already been infected were well protected, and the researchers think that a second dose would be just as good. Patients with a proven history of SARS-CoV-2 infection, even if they had not been vaccinated against the virus, were less likely to be hospitalized or die than people who had not been vaccinated against the virus. If you were immunized, you fared much better than if you had not been immunized or had already been infected. Those who got an mRNA vaccine booster dose had 70% fewer side effects than those who did not. Females made up 532% of the total population, which was made up of people of all ages, of the people who took part, 533 were black, and 83 were white. Hospital visits, admission to the hospital, and death were all higher for people who had omicron and delta than for people who did not have them. Both vaccinated people (HR 047 [032–068]) and unvaccinated people (HR 018 [006–057]) died from omicron and delta variants. It was found that people who had been vaccinated did not have better protection from previous infections (HR 096 [088–1104]). Even though you do not need to have been infected before, coronaviruses quickly weaken your immune system, so you need to get a booster shot [11]. People who had been vaccinated against SARS-CoV-2 before or who had SARS-CoV-2 illnesses did not have good protection against the omicron form. This raises the question of whether a new, more effective SARS-CoV-2 vaccine is needed. The omicron group was found to have a much lower chance of having bad things happen, like being hospitalized or dying, than the delta group.

Despite the fact that immunizations cannot prevent omicron infections or reinfections, the findings of this study demonstrated that mRNA vaccine boosts can provide a significant level of protection against hospitalization and death. Despite the fact that this study is current and makes a significant contribution to the SARS-CoV-2 literature, it has several serious flaws. Nyberg and colleagues failed to recognize the huge threat their findings posed to the general public's health, despite the fact that their findings resulted in decreased individual chances of hospitalization and death (omicron versus delta). Because the omicron strain is more contagious than the delta strain, there have been unusual numbers of hospitalizations in various countries, including the United States [12]. With each new infection, the risk of getting SARS-CoV-2 goes up, just like it has with every other variant of concern to date. This is due to mutations that happen either within the omicron lineages (like the continued development of the BA.1 and BA.2 omicron subvariants) or in new, separate lineages (for example, the emergence of new independent lineages). As we have already said,

<https://doi.org/10.1016/j.ijso.2022.106947>

Received 2 September 2022; Accepted 19 September 2022

Available online 22 September 2022

1743-9191/© 2022 IJS Publishing Group Ltd. Published by Elsevier Ltd. All rights reserved.

Omicron has created a new pandemic scenario in which a large portion of the population in countries with high rates of infection has become immune, either through vaccination, infection, or other ways of spreading. This is because of past prevention efforts and the spread of SARS-CoV-2 subtypes like omicron that are less contagious and less dangerous. However, the prospect of hazardous or transmissible mutations in the future cannot be ruled out. In low- and middle-income countries, where fewer people have been immunized against the disease, SARS-CoV-2 will change more quickly. COVID-19 vaccines and treatments, according to the international community, must be made available to all people in low-immunization countries, even those who have already received them. In order to prevent the virus from spreading, more focused and data-driven preventative measures must be implemented in highly vaccinated countries. Instead of adopting broad, restrictive policies that damage the economy, society, and public health, we may be on the verge of enacting more focused, preventive measures to battle SARS-CoV-2. A large-scale study like Nyberg's would be extremely valuable in this regard.

### Ethical approval

Ethical Approval was given, by whom and the relevant Judgement's reference number.

### Sources of funding

Not applicable.

### Author contributions

Nobendu Mukerjee, Arabinda Ghosh<sup>1</sup> *Conceptualization, Study design and writing.* Swastika Maitra, Padmashree Das- *Writing.* Sumira Malik Athanasios Alexiou- *Editing & reviewing.*

### Research registration Unique Identifying number (UIN)

Name of the registry:  
Unique Identifying number or registration ID:  
Hyperlink to your specific registration (must be publicly accessible and will be checked):

### Guarantor

I, Dr. Arabinda Ghosh (Corresponding author) am taking the full responsibility for the work and/or the conduct of the study, had access to the data, and controlled the decision to publish.

### Data statement

Data not available/not applicable.

### Provenance and peer review

Not commissioned, internally peer-reviewed.

### Declaration of competing interest

Not applicable.

### References

- [1] V. Tangcharoensathien, M.T. Bassett, Q. Meng, A. Mills, Are overwhelmed health systems an inevitable consequence of covid-19? Experiences from China, Thailand, and New York State, *BMJ* (2021 Jan 22) 372.
- [2] M. Dhawan, A.S. Priyanka, O.P. Choudhary, Vaccine inequity and hesitancy: dual factors in the emergence of novel SARS-CoV-2 variants, *Ann. Med. Surg.* 73 (2022 Jan).

- [3] N. Andrews, J. Stowe, F. Kirsebom, S. Toffa, T. Rickeard, E. Gallagher, C. Gower, M. Kall, N. Groves, A.M. O'Connell, D. Simons, Effectiveness of COVID-19 vaccines against the Omicron (B. 1.1. 529) variant of concern, *MedRxiv* 386 (18) (2021 Jan 1).
- [4] R. Viana, S. Moyo, D.G. Amoako, H. Tegally, C. Scheepers, C.L. Althaus, U. J. Anyaneji, P.A. Bester, M.F. Boni, M. Chand, W.T. Choga, Rapid epidemic expansion of the SARS-CoV-2 Omicron variant in southern Africa, *Nature* (2022 Jan 7) 1, 0.
- [5] A.L. Lundberg, R. Lorenzo-Redondo, E.A. Ozer, C.A. Hawkins, J.F. Hultquist, S. B. Welch, P.V. Prasad, J.F. Oehmke, C.J. Achenbach, R.L. Murphy, J.I. White, Has Omicron changed the evolution of the pandemic? *JMIR Public Health. Surveill.* 8 (1) (2022 Jan 31), e35763.
- [6] T. Nyberg, N.M. Ferguson, S.G. Nash, H.H. Webster, S. Flaxman, N. Andrews, W. Hinsley, J.L. Bernal, M. Kall, S. Bhatt, P. Blomquist, Comparative analysis of the risks of hospitalisation and death associated with SARS-CoV-2 omicron (B. 1.1. 529) and delta (B. 1.617. 2) variants in England: a cohort study, *Lancet* 399 (10322) (2022 Mar 16).
- [7] N. Wolter, W. Jassat, S. Walaza, R. Welch, H. Moultrie, M. Groome, D.G. Amoako, J. Everatt, J.N. Bhiman, C. Scheepers, N. Tebeila, Early assessment of the clinical severity of the SARS-CoV-2 omicron variant in South Africa: a data linkage study, *Lancet* 399 (10323) (2022 Jan 19).
- [8] Bager P, Wohlfahrt J, Bhatt S, Edslev SM, Sieber RN, Ingham AC, Stegger M, Legarth R, Holten Møller C, Skov RL, Valentiner-Branth P. Reduced Risk of Hospitalisation Associated with Infection with SARS-CoV-2 Omicron Relative to Delta: A Danish Cohort Study.
- [9] L. Veneti, H. Bøås, A.B. Kristoffersen, J. Stålcrantz, K. Bragstad, O. Hungnes, M. L. Storm, N. Aasand, G. Rø, J. Starrfelt, E. Seppälä, Reduced risk of hospitalisation among reported COVID-19 cases infected with the SARS-CoV-2 Omicron BA. 1 variant compared with the Delta variant, Norway, December 2021 to January 2022, *Euro Surveill.* 27 (4) (2022 Jan 27), 2200077.
- [10] Sheikh A, Kerr S, Woolhouse M, McMenemy J, Robertson C. Severity of Omicron Variant of Concern and Vaccine Effectiveness against Symptomatic Disease: National Cohort with Nested Test Negative Design Study in Scotland.
- [11] J.P. Townsend, H.B. Hassler, Z. Wang, S. Miura, J. Singh, S. Kumar, N.H. Ruddle, A. P. Galvani, A. Dornburg, The durability of immunity against reinfection by SARS-CoV-2: a comparative evolutionary study, *Lancet Microbe* 2 (12) (2021 Dec 1) e666–e675.
- [12] Centers for Disease Control and Prevention, COVID data tracker. <https://covid.cdc.gov/covid-data-tracker/#new-hospital-admissions>.

Nobendu Mukerjee<sup>1</sup>

Department of Microbiology, Ramakrishna Mission Vivekananda Centenary College, West Bengal, Kolkata, 700118, India  
Department of Health Sciences, Novel Global Community Educational Foundation, Australia  
E-mail address: [nabendu21@rkmvccrahara.org](mailto:nabendu21@rkmvccrahara.org).

Swastika Maitra<sup>1</sup>

Adamas University, West Bengal, Kolkata, 700118, India  
E-mail address: [swastikamaitra2018@gmail.com](mailto:swastikamaitra2018@gmail.com).

Padmashree Das<sup>1</sup>

Centre of Biotechnology and Bioinformatics, Dibrugarh University, Assam, 786004, India  
E-mail address: [rs\\_padmashreedas@dibru.ac.in](mailto:rs_padmashreedas@dibru.ac.in).

Sumira Malik

Amity Institute of Biotechnology, Amity University Jharkhand, India  
E-mail address: [smalik@rnc.amity.edu](mailto:smalik@rnc.amity.edu).

Athanasios Alexiou<sup>\*\*</sup>

Department of Science and Engineering, Novel Global Community Educational Foundation, Australia & AFNP Med, Wien, Austria

Arabinda Ghosh<sup>\*</sup>

Microbiology Division, Department of Botany, Gauhati University, Guwahati, Assam, 781014, India

<sup>\*\*</sup> Corresponding author.

<sup>\*</sup> Corresponding author.

E-mail address: [alextha@yahoo.gr](mailto:alextha@yahoo.gr) (A. Alexiou).  
E-mail address: [dra.ghosh@gauhati.ac.in](mailto:dra.ghosh@gauhati.ac.in) (A. Ghosh).

<sup>1</sup> Equally contributing authors.