

How COVID 19 pandemic may end: Coexistence is the key



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It has been 2 years plus that the global pandemic has shadowed every aspect of human life. We have witnessed multiple waves of invasion by the different mutated versions of SARS-CoV-2,¹ with each wave specific predominant symptoms and casualties.² At present, we are witnessing the rage of Omicron, another mutated version of the virus, carrying 32 alterations in its spike proteins.³ What makes Omicron unique is its extremely high transmissibility, spreading like wildfire across the globe, with its footprints in over 90 countries infecting over several million.⁴ The high mutational burden of Omicron is perhaps the outcome of the selection pressure that this virus has been encountering while infecting its hosts. Added to that is also the effect of vaccination contributing to the emergence of different variants. What is spectacular is that Omicron is relatively less lethal than the previous variants though it contains many more alterations. This may be pointing toward a scenario of mutational exhaustion as well the status of an enhanced host immune surveillance. Under these conditions, it is conceivable that the virus will run out of all its maximal capacity to mutate. We must accept the fact that the virus and its variants will keep on coming and time and often they might take an upper hand but over years, we will get used to this and learn ways to coexist.⁵ We must adjust our vaccine development pipelines and other risk mitigation tools to evade the risk. This has been the case with the influenza virus and it is likely that SARS-CoV-2 will follow the same. Let's look at the other examples of this kind. How did other pandemics that affect humankind before has ended? The viruses did not go away completely, the modern H1N1, a descendent of the Spanish flu virus, circulates as H3N2 even today.^{6,7} Humans did not completely develop a herd immunity and knocked it off. That simply did not happen. Rather, the viruses became endemic and we will learn to live together. Both sides will develop safety nets so that none affects the other beyond a point of mutual coexistence. A better infectious agent evolves to ensure the survival of its host so that it can sustain itself without killing it. SARS-CoV-2 seems getting educated along these lines too. SARS-CoV-2 evolution to Omicron is perhaps a step in that direction.

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