

EDITORIAL

Pressing need to revise the COVID-19 vaccination strategy in India

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The global scientific community has witnessed unprecedented research on COVID-19 vaccine development. Globally, thirty seven vaccines have received emergency use authorization (EUA) certificate by the regulatory authorities of different countries for one disease i.e., COVID-19.¹ More than 350 COVID-19 vaccines are in different phases of development. Still there is a global demand-supply mismatch in COVID-19 vaccines. Many developing countries that are not indigenously producing the vaccine have fallen behind in the race. There is growing criticism of "vaccine inequality" or unequal access to vaccines between rich and developing countries. All the vaccine efficacy and effectiveness studies have shown that the vaccine significantly reduces the severity of illness and deaths from COVID-19 in susceptible population. However, current available COVID-19 vaccines are not very effective against prevention of infection from SARS CoV-2. The breakthrough infections after vaccination are being reported from all parts of the world, including India.

Global evidence has demonstrated that the natural infection provides better and longer protection against COVID-19. In fact, recent evidence suggest that the natural infection may provide lifelong immunity.^{2,3,4} Currently, we don't have sufficient evidence to infer that the vaccination provides better immunity than the natural infection. The vaccine may evoke a higher specific IgG level than the natural infection, but that doesn't necessarily mean that an individual is better protected. Secondly, the waning of IgG level with time doesn't mean that there is a corresponding decline in the immune protection provided that the cellular immunity is intact.

The vaccine does significantly reduce the severity of the disease and consequent mortality compared to the unvaccinated susceptible group. This is the biggest advantage of vaccination. But, if one were to compare the naturally infected group with the vaccinated group; the naturally infected group has better immune protection (longer duration, and lower reinfection rate) than the vaccinated group. Data from Israel suggest that the fully vaccinated group was six times more likely to get SARS CoV-2 breakthrough infection compared to the naturally infected group.⁵

Public Health England had also released the data of 4 million infected individuals. The reinfection rate among naturally infected individuals was very low compared to the breakthrough infection rate among the vaccinated group. Only 53 had confirmed reinfection out of 4 million infected people by June 2021.⁶ Most of the breakthrough infections occurred within 2 to 3 months of receiving the second dose of the vaccine. However, among the naturally infected individuals, the rare reinfection occurred approximately one year after the original infection. The recommendation to give vaccine after natural infection is based on the premise that the vaccine would act as a booster. However, in case of COVID vaccine this premise is not supported with sufficient scientific evidence. Therefore, some people suspect that the policy to vaccinate even after natural infection could be driven by some vested interest group.

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The breakthrough infections among fully vaccinated groups are being reported from all parts of the world, including India. The Seychelles, Singapore, South Korea, are few countries for classic example of breakthrough infection. Countries like Israel, Hong Kong, Denmark, South Korea reported approximately 8,000 to 10,000 cases per million population per day during their respective peak even after high vaccination coverage. Seychelles was the first country in the world to achieve 60%, and 70 % vaccination coverage by the 1st week of March, and 2nd week of May 2021, respectively. During May/June 2021 and January 2022, however, the maximum numbers of cases / million populations were reported from Seychelles.

Global data strongly suggests that majority of us will get COVID infection even after vaccination.

In summary, we can say that:

1. The natural infection provides better and longer lasting protection (may even provide lifelong immunity).
2. India needs to re-examine its COVID-19 vaccination policy. Vaccine should be prescribed to only those who have never been tested positive for COVID-19 in the past. These individuals are at a higher risk of infection and severe disease conditions. Individuals with documented COVID-19 infection in the past may be vaccinated after generating evidence that vaccine is beneficial even after natural infection.
3. Based on the available evidences, we can say that there is no additional benefit of vaccination in COVID recovered individuals. Actually, it may cause harm due to few known and unknown severe adverse events following immunization.
4. Most likely, the herd immunity will be achieved primarily through the natural infection and not by the existing vaccines. Naturally infected individuals have much lower chance of getting reinfected and therefore less likely to be a source of further transmission compared to the vaccinated group.

In India, all individuals older than 12 years are eligible for COVID-19 vaccination. To increase the vaccine uptake, a new strategy has been introduced called 'Har Ghar Dastak'. The main goal is to ensure that everyone is vaccinated. To many this policy may appear to be a form of mild coercion. Considering the latest available evidence, this policy seems misplaced and needs re-examination, rather than blindly copying whatever is being advocated elsewhere. This virus is now more than two years old, and we have generated sufficient evidence to support superiority of protection offered by the natural infection over vaccination. Now is the time to rely exclusively on the available evidence; and junk all the assumptions / speculations while making public health policies. A revised COVID-19 vaccine policy is need of the hour to safeguard the science. The starting point could be to issue a "*natural certificate*" to all the COVID recovered individuals for travel and other purposes. This will help in reducing the needless burden on an already stretched health system as well as unnecessary harassment of common man.

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