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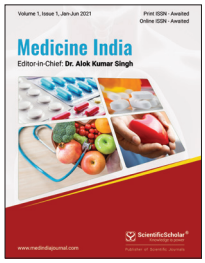

Editorial

Do vaccination is an effective therapeutic option for long COVID?

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Long COVID is a condition with a broad spectrum of symptoms that are poorly described. According to a United Kingdom research, 7–18% of patients who had COVID-19 eventually developed long COVID manifestations that lasted for nearly 5 weeks.[1] Long COVID effects might be minimal for some people, but they can be life-altering for others. Long COVID is a chronic illness with a variable course and relapses associated physically, mentally, and emotionally in many people.[2] The processes behind changes in long COVID manifestations following immunization are unclear. However, Ayoubkhani *et al*. proposed that immunization can raise the antibody levels in our body and successfully remove the viral reservoirs.[3] As the number of individuals who have reported benefits from vaccines is significantly less and due to uncertainty surrounding the genuine efficacy of vaccines compared to natural recovery, a convincing answer for how immunizations could minimize the multiorgan signs of long COVID is still missing. Several possible processes causing long COVID are currently being researched.[4,5]

Vaccines minimize the chances of long COVID by reducing the likelihood of getting COVID-19 in the first place. For patients with long COVID, immunization to lower the chance of reinfection is still crucial, and data so far show that the advantages probably outweigh the risks. However, studies show that vaccination for individuals who get a breakthrough infection may only reduce the risk of long-term COVID by half or have no impact at all.[6,7] Assessing the occurrence of long COVID among immunized persons has immediate public health ramifications since some nations are relaxing the previously controlled viral transmission constraints. It might also reveal what causes COVID-19 manifestations to remain long after the initial infection has passed.

Regarding long COVID and immunization, health experts are currently flying blind. Even in countries with reasonable immunization rates, those with increased infection rates may still have numerous cases of long COVID. Long COVID can develop even after a minor or asymptomatic coronavirus infection, even though vaccinations dramatically lower the chances of significant illness and mortality caused by COVID-19.

It is difficult to predict the probability of long COVID from breakthrough infections. The observations of the most significant reported study in the UK were presented by Ayoubkhani *et al*.[3] Participants in this study were tracked for several months following immunization to see if there was a link between vaccines, long COVID, and symptoms after the 1st and 2nd doses of vaccines (either an adenovirus vector or an mRNA).[3] The study revealed that immediately after the first and second vaccination doses, the probabilities of reporting long COVID were reduced by 12.8% and 8.8%, respectively. However, with the first dose vaccine, this decrease did not last

more than 12 weeks; for the second dose vaccine, it stayed for 9 weeks. The absence of a persistent impact after the first dosage, according to the authors, might be due to insufficient immunological response.

Another research of about 1500 vaccinated health-care professionals in Israel discovered that 7 (19%) of the 39 breakthrough illnesses caused symptoms to last longer than 6 weeks.[8] According to the Office for National Statistics in the United Kingdom, 44% of persons with self-reported long COVID had experienced clinical manifestations for a minimum of 1 year.[9]

The US congress granted the National Institutes of Health $1.15 billion over 4 years to study the long-term effects of COVID infections on health. In June, the NIH issued the first grants for the RECOVER, a long COVID pilot study. This study seeks to recruit thousands of participants and follow their complaints, including those with or without long COVID after acute COVID infection and those who have not been affected. One of the key objectives is to better understand the pathogenesis of long COVID and adequately describe the ailment.

Individuals with long COVID need to be investigated, managed, and rehabilitated in specialty clinics as early as possible.[10] Researchers will better understand how vaccines and new mutants impact long COVID incidence and severity as immunization programs continue.

Author's contributions

Dr. Jonnalagadda Vihari: Corresponding Author: Contribution: Concepts, Design, Data analysis, Manuscript preparation. 2. Dr. Neerukonda Sriteja: Contribution: Definition of intellectual content, Literature search. 3. Dr. Brijeshraj Swain Contribution: Manuscript editing and review. 4. Dr.Adurty Aditya- Contribution: Data acquisition

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