**ABSTRACT**

**Introduction:** Three years into the Coronavirus Disease-2019 (COVID-19) pandemic, questions linger regarding long-term vaccine efficacy, potential side effects, and the risk of future viral waves. Despite vaccinations, no existing vaccine offers complete protection, contributing to ongoing fears and vaccine hesitancy. Asymptomatic carriers and unattained herd immunity add layers of complexity. This study seeks to examine the status of immunity in vaccinated and unvaccinated individuals amidst the shifting landscape of different Severe Acute Respiratory Syndrome-Coronavirus-2 (SARS-CoV-2) variants.

**Aim:** To determine the percentage of unvaccinated individuals who have developed COVID-19 specific antibodies and to compare the factors influencing immunity in both unvaccinated and vaccinated individuals.

**Materials and Methods:** This prospective cohort study was conducted at Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu, India, from March 2021 to May 2023. Participants, aged 18-82 of both sexes, were divided into two groups. Group-1 comprised our college and hospital staff who were vaccinated, and Group-2 consisted of members from the local community in the Chromepet, Chennai area who remained unvaccinated. Blood samples were collected from both groups to assess immunity status. Statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS, version 22.0). The tests used included the Chi-square test, p-value, mean, and standard deviation.

**Results:** Blood group “B” was more commonly observed in Group-2. The prevalence of co-morbidities was higher in Group-2. Immunological markers CD4 and CD8 were below normal in some individuals in Group-2. By April 2022, 53 (95%) out of 56 persons in Group-1 and by December 2022, 24 (96%) out of 25 persons in Group-2 tested positive for COVID-specific IgG antibodies. By May 2023, 100% of the volunteers in both groups were found to be positive.

**Conclusion:** This study suggests that natural immunity may be effective in protecting against COVID-19. Whether vaccinated or not, by the end of the two-year study, all individuals in the study group had developed COVID antibodies.

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