

COVID-19 infection outcome among vaccinated and unvaccinated individuals during second and third wave of the pandemic in India - A cross-sectional retrospective study

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Abstract

Background- COVID-19 took a major toll on the healthcare system in India. Multiple vaccines were developed to prevent infection with the SARS-CoV-2 virus. Infection outcome was different among unvaccinated patients and those vaccinated. **Aims and Methodology-** The research aimed to find out various outcomes of COVID-19 disease and to compare these outcomes in vaccinated and unvaccinated patients. Data was collected from the records in a tertiary care hospital. The patients were segregated into mild, moderate, and severe disease according to the ICMR guidelines and the results were analysed using SPSS software. **Results-** Data of 816 and 2010 individuals for second and third wave respectively was collected and analysed. The results show that a higher percentage of unvaccinated individuals were asymptomatic (54.7 and 59.3%) but within symptomatic individuals, mild forms of the disease are much more common in vaccinated individuals (66.6% and 63.3%) while severe forms of the disease were more common in unvaccinated individuals (5.7% and 3.1%). This suggests that while vaccination may not have a significant effect on whether symptoms are contracted, it plays a vital role in lowering the severity of the disease form. **Implications-** This study proved that there exists a strong correlation between vaccination and reduced severity of disease, and further emphasized the importance of vaccines in protection from grave outcomes. Calculation of risk estimate showed that the unvaccinated individuals were more at risk for severe disease than those vaccinated with one or two doses of vaccines.

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