



Subjects with respiratory allergy to house dust mites experience distinct adverse effects following COVID-19 vaccination



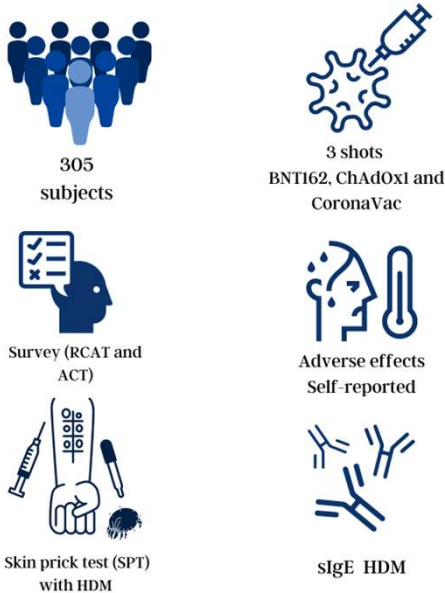
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Introduction: The onset of COVID-19 pandemic led to an unseen worldwide effort to control the disease through mass vaccination. In Brazil, along with inactivated virus, both mRNA and adenoviral vector vaccines have become the leading options in vaccination campaigns, notably decreasing hospitalizations, severity of illness, and death rates. However, the association between respiratory allergy status and vaccine adverse effects is poor understood, even for COVID-19

Goal: This study investigated the main adverse effects following COVID-19 vaccination in atopic subjects with respiratory allergy (asthma/rhinitis) and non-atopic.

Methodology:



Results:

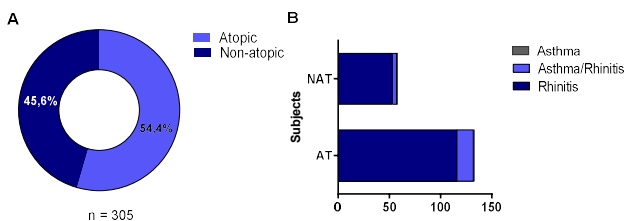


Figure 1. Frequency of atopy subjects and non-atopic subjects (A) Determined by IgE specific and SPT to HDM (B) Symptoms related by RCAT and ACT surveys.

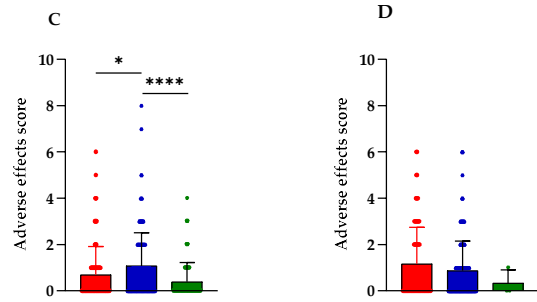
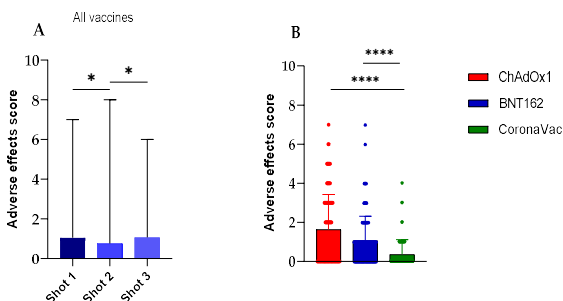


Figure 2. Comparison of the adverse effect scores of the BNT162, ChAdOx1, and CoronaVac vaccines for COVID-19 among shots. (A) shots 1, 2, and 3 the both vaccines; (B) shot 1 only; (C) shot 2 only; (D) shot 3 only. * $p < 0.05$; **** $p < 0.0001$.

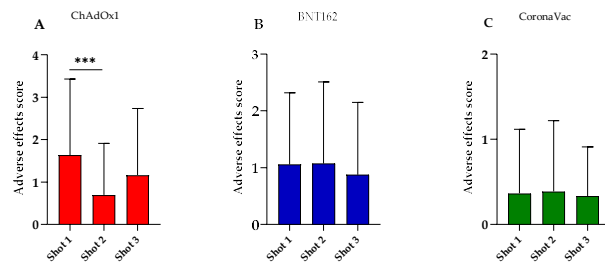


Figure 3. Adverse effect score distribution of (A) ChAdOx1, (B) BNT162, and (C) CoronaVac vaccines for COVID-19. The score was calculated as the cumulative number of adverse effects, ranging from 1 to 4. *** $p < 0.001$

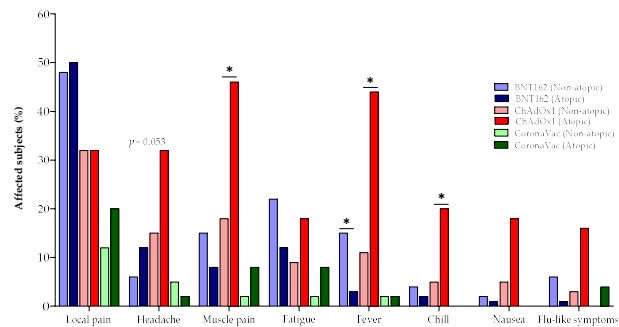


Figure 4. Main adverse events associated with the administration of the first dose of the BNT162, CoronaVac, and ChAdOx1 vaccines in the non-atopic and atopic groups. The colors indicate the type of vaccine, and the intensity of the color indicates the non-atopic (lighter) or atopic (darker) groups. * $p < 0.05$

Conclusion: No anaphylaxis or allergic reactions were reported, indicating valuable evidence supporting the safety of COVID-19 vaccination in individuals with respiratory allergies. This study highlights the importance of understanding vaccine-related adverse effects, particularly in vulnerable populations, to inform vaccination strategies and address safety concerns in global immunization campaigns.

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