

Immunogenicity and safety of Pneumococcal Vaccines Co-administered with Common Travel Vaccines in Adults: A Systematic Review

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Background: We aim to systematically review current scientific literature and find evidence regarding the immunogenicity and safety of pneumococcal vaccines co-administered with common vaccines that are recommended for travelers, including Hepatitis A, hepatitis B, yellow fever, tetanus, diphtheria, and acellular pertussis (Tdap), Japanese encephalitis, rabies, typhoid, or meningococcal (MCV) vaccine in adults.

Methods: We followed the PRISMA 2020 guidelines and used the PICOS process to select the keywords. We searched PubMed, Web of Science, Scopus, EMBASE, and Google from January 1, 2000, to June 30, 2024. We included randomized controlled trials, non-randomized controlled trials, observational studies, case-series, and case reports in adults, all published in English.

Results: Out of 598 articles screened, six studies were included (Figure 1). Three studies involved immunocompetent individuals, and three involved immunocompromised individuals. Coadministration of pneumococcal vaccines with Hepatitis A, Tdap, or MCV in immunocompetent individuals was safe and immunogenic. Similar findings were reported for immunocompromised individuals when pneumococcal vaccines were co-administered with Tdap, Hepatitis A, and Hepatitis B. No studies investigated coadministration with yellow fever, rabies, Japanese encephalitis, or typhoid vaccines. One RCT had some concerns, while both non-randomized studies had a serious risk of bias (Figure 2).

Conclusions: These studies collectively indicate that the coadministration of pneumococcal vaccines with hepatitis A, hepatitis B, and Tdap vaccines in adult immunocompetent and immunocompromised individuals is safe and immunogenic. However, further high-quality studies are needed, particularly due to the limited number of studies and the potential risk of bias.