

Prevalence of sensitization to molecular food allergen components in Europe: a systematic review

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April 26, 2022

Abstract

Recent reports indicate that the prevalence of food allergy is increasing, but accurate estimates remain a challenge due to cross-reactivity and limited use of precise diagnostic methods. Component-resolved diagnostics (CRD), in which sensitization to individual molecular components of whole food allergen extracts is measured, is emerging as a promising tool for evaluation of sensitization profiles. In this systematic review, we summarized estimates of prevalence of sensitization to food allergen components in the general population in Europe. We searched seven databases with no restrictions on publication date or language. Two reviewers independently screened the literature and appraised the risk of bias in the included studies. From 4,776 de-duplicated records, five studies, with low to moderate overall risk of bias, were included and narratively synthesized. Forty-six components from 18 foods were investigated. Overall, the prevalence of sensitization was low, particularly for major allergens, and non-existent for 10 components (0% [95% CI 0-0.8]). The highest prevalence was seen for PR-10 proteins, such as Cor a 1.04 (13.6% [95% CI 10.9-16.9]). There were not enough studies to discern regional differences or perform meta-analysis, highlighting the need for more population-representative studies in order to elucidate patterns of sensitization to food allergen components in Europe.

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