Risk factors for allergy: Evidence from cross sectional analysis of a UK primary care database.

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Abstract

Background: As the global prevalence of allergy increases, it is clear that more individuals are presenting with complex and multiple allergies. The impact of various demographic and clinical risk factors on developing allergies has not been explored at a population level. Objectives: To ascertain if age, gender, ethnicity, UK geographical region of residence and being diagnosed with another allergy affect the risk of having allergies. Methods: A retrospective analysis was performed using cross-sectional data for the year 2018 extracted from the from the health improvement network (THIN) database. THIN is a live primary care database which holds entries about 6% of the UK population. A logistic regression analysis was carried out using demographic data and allergy diagnoses as independent variables. Results: Of the 3.03 million records analysed, 49.8% were male and 19.7% were children (aged < 18 yrs). There were gender, ethnicity and region-based differences in the prevalence of GP diagnosed allergic diseases in the UK. The odds of developing anaphylaxis are highest in individuals with food allergy [OR: 54.57 (95%CI: 45.65-65.22); p<0.001 for children and OR:18.05 (95% CI:16.79-19.41); p<0.001 for adults respectively]. Individuals with any diagnosed allergy had significantly higher odds of being diagnosed with others. Conclusions: Having an allergy significantly increases the odds of being diagnosed with others. There are age, gender, ethnicity and region based differences in the prevalence of allergies. These data suggest that the number of individuals with multiple allergies is increasing and that the needs of increasingly cosmopolitan populations should be taken into account when planning allergy services.

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