Prevalence and risk factors of allergic sensitization to common food and inhalant allergens among adolescents from Cuenca and Santa Isabel-Ecuador

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Allergic diseases, major public health problem, are the result of composite interaction of both genetic and environmental factors. Little is known on the prevalence and risk factors of allergic sensitizations among Ecuadorian adolescents. This study tries to determine the prevalence of allergic sensitization to food and inhalant allergens among adolescents attending basic schools of Cuenca and Santa Isabel, Ecuador. Adolescents 11-19 years attending different schools in two cantons of Azuay province Ecuador. Skin prick tests with both food and inhalant allergens were administered to determine the allergic sensitization. Standardized questionnaires were employed to both adolescents and their parents to assess potential risk factors. 1457 adolescents underwent SPT to a predefined panel of allergens. The prevalence of allergic sensitization was 64.2% with only slight difference between Cuenca and Santa Isabel (65.4% vs 61.4%, p=0.14). The most common positive skin reactivity test was to D pteronyssinus (36%) and D farinae (34.5%) (house dust mites) and blomia tropicalis (25.3%). The bivariate analysis revealed that adolescents from Cuenca were more of male participants, economically better off (p<0.001), have more smoking mothers (p=0.001), lower chance of living in farm in direct contact with animals (p<0.001), higher farm visit during first year of life (0.001), higher maternal and paternal education levels (P<0.001) and have higher day care attendance (<0.001). Farm visit during 1st year of life was a protective factor against allergic sensitization (OR=0.64, p=0.025). Whereas higher maternal education level (OR=1.76, p=0.012) and paternal history of physician diagnosed animal wool allergy (OR=2.49, p=0.031) were the only predictors which were significantly associated with atopy development. The prevalence of allergic sensitization was found to be high in Ecuador giving alert that atopy and allergic disease are not only the major public health problem of western and developed countries.

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