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Title: Environmental influences on the incidence and etiology of asthma in Galati, Romania

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Body: Background: The increasing number of asthmatic children in Galati, one of the largest cities of Romania, very industrialized, requires a careful approach on the incidence and etiology of asthma based on heredity, pollution and income levels. Materials and methods. The study group consisted of 614 children in Galati and some adjacent areas, diagnosed in 2008-2010 with asthma. Results. It showed that 71.15% of subjects in Galati city are living in the half of the city located in the vicinity of the industrial area. Children from rural areas who had a history of repeated acute infections of the upper respiratory tract or symptoms such as cough or shortness of breath or wheezing present a risk of developing asthma, more than 8 times higher for allergy to Aspergillus (p=0.002), 3 times for mold allergy and feathers (p=0.0007) and 2.53 times higher for those allergic to tree pollen (p=0.0004). Under the same conditions, children in urban areas, have an increased risk of acquiring asthma 2 times higher with the combination of positive reactions to molds and mites and 3 times higher for the triple combination of allergy to Dermatophagoides pteronyssinus, Dermatophagoides farinae and storage mites. Additionally, in patients living near industrial area, the risk of exacerbations of asthma due to mite allergy is 1.32 times higher. Conclusions. Although no statistically significant differences were highlighted in the incidence of positive reactions for most allergens tested, between subjects in Galati and those of other neighboring rural or urban, there was an increased incidence of asthma and allergy to dust mites and molds in patients living in areas near industrial areas.