

# SENSITIZATION PROFILE OF CHILDREN LIVING IN MAGNITOGORSK CITY AND SURROUNDING AREAS

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House dust allergy is a common cause of allergic diseases such as bronchial asthma and allergic rhinitis. Symptoms caused by environmental sensitization are all-season and often related with plants pollen activity or pets. The aim of the study was to study children respiratory sensitization in Magnitogorsk city and surrounding areas.

The study included 55 children with established environmental sensitization and diagnosed atopic diseases (bronchial asthma/allergic rhinitis/atopic dermatitis from 1 to 18 years-old (average age – 7 years), 35 boys (64%) and 20 girls (36%). All patients were divided into three groups depending on their residence: 1st group included 22 children (from Magnitogorsk city), 2nd group – 8 children (Verkhneuralsk city, Chelyabinsk region), 3rd group – 25 children (Beloretsk city, Bashkiria region). All children were examined by the ImmunoCAP method for house dust mites (HDM), set of tree and grass pollen allergens, and a cat. The degree of sensitization of specific IgE (sIg E) was determined depending on the titer from class (cl.) 0 (titer <0.35 kU/l) to 6 cl. (>100 kU/l).

Environmental sensitization to *Dermatophagoides pteronissinus* (D.p.)/*Dermatophagoides farinae* (D.f.) was detected in 100% of cases (55 children). The average sIg E values HDM is: 3 cl.: D.p.  $10.86 \pm 5.02$  kU/l; D.f.  $7.05 \pm 3.92$  kU/l (Magnitogorsk); D.p.  $9.25 \pm 5.93$  kU/l; D.f.  $6.47 \pm 3.49$  kU/l (Verkhneuralsk). Higher levels of sIg E to environmental aeroallergens are observed in Beloretsk- 4 cl.: D.p.  $17.58 \pm 5.04$  kU/l; D.f.  $19.19 \pm 6.57$  kU/l. Although reliable data have not yet been obtained, meanwhile, the values of sIg E to HDM in children living in Bashkiria are more significant. We established sensitization to birch ( $20.95 \pm 7.21$  kU/l), timothy grass ( $7.71 \pm 4.29$  kU/l) and wormwood ( $15.27 \pm 7.16$  kU/l) for patients from Magnitogorsk. In the cities of Verkhneuralsk and Beloretsk, the indicators were similar to ones in Magnitogorsk. Among epidermal allergens, sensitivity to cat dander was higher in Magnitogorsk: 4 cl. ( $42.61 \pm 9.8$  kU/l), that significantly exceeded the average values for patients from Verkhneuralsk ( $4.09 \pm 2.48$  kU/l) and Beloretsk  $19.17 \pm 6.3$  kU/l ( $p < 0.05$ ). Thus, only one third of patients with environmental sensitization to HDM living in Magnitogorsk and nearby territories did not show sensitivity to other respiratory allergens.