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Title: Correlation between nasal symptoms and lung function parameters in preadolescent children

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Body: Introduction: Allergic rhinitis is a frequent medical condition worldwide and it also influences considerably the children's performance at school. Aim: Correlation between the ISAAC (International Study of Asthma and Allergies in Childhood) questionnaire's data and respiratory system functional parameters in children between 10 and 12 years old. Methods: Parents of elementary school pupils in the Municipality of Polichni, Thessaloniki, Greece were asked to fill in the ISAAC questionnaire. All students underwent spirometry, rhinomanometry, IgE and eosinophils in the peripheral blood, fraction of exhaled NO (FeNO) and skin prick tests. The control group consisted of those children with no rhinitis symptoms. Results: 1150 children of 11 elementary schools were included in the study. 971 questionnaires were completed (participation rate: 84.4%). One hundred forty four students had at least one positive answer regarding rhinitis (14,8%). Of those, 20.8% presented with elevated IgE levels, 25.4% had increased blood eosinophils, 20.8% had high FeNO (>20ppb) and 45.1% had at least one positive skin prick test. Body mass index was higher in the rhinitis group (21.1±3.3 vs 20.1±1.8 kg/m², p=0.019), while the spirometric and rhinomanometric data did not differ between the rhinitis and the control group. IAAC questionnaire's score was positively correlated with IgE concentration (p=0.002), eosinophils (p=0.037) and the number of positive skin prick tests (p<0.001). Conclusion: Our study showed significant positive correlation between the ISAAC questionnaire's data and allergic parameters. Therefore the ISAAC questionnaire is strongly recommended as a useful tool in primary pediatric care practice.