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Title: Allergy and respiratory symptoms in young athletes involved in indoor and outdoor sport activity

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Body: Introduction: allergy and respiratory diseases are frequent in athletes. Aim of the study: to evaluate clinical aspects of allergy and respiratory symptoms in young people practising outdoor or indoor sport activity. Methods: AQUA questionnaire, specific for allergic disease (1) administered to 150 young (R: 13 - 20y) subjects practising competitive sport activity: soccer (82 M) or swimming (68, 42 M, 26 F). The subjects with an AQUA score ≥ 5 were evaluated by skin prick test, spirometry, exhaled NO (FENO). Results: Positive AQUA score: 26 (31.7 %) soccers and 48 (70.5 %) swimmers ($p=0.000$); previous diagnosis of allergy: 21 (25.6 %) soccers and 25 (36.7 %) swimmers (NS). Percentage of diagnosis in AQUA+ score: 80.7 % of soccers and 52 % of swimmers ($p=0.029$). 14 soccers (17 %) and 20 swimmers (29.4 %) had a diagnosis of Asthma and/or Rhinitis. AQUA questionnaire was positive for EIA in 5 soccers (6 %) and 14 swimmers (20.5 %)($p=0.016$). Only 16 on 26 soccers (61.5 %) and 32 on 48 swimmers (66.6 %) of AQUA+ subjects accepted of perform further evaluation. 2 soccers and 7 swimmers were positive to skin prick test, without a previous diagnosis of allergy. 2 soccers and 9 swimmers had FENO values > 25 ppb, without a previous diagnosis of allergy. Conclusions: AQUA questionnaire showed a high percentage of allergic subjects in young athletes, significantly higher and underdiagnosed in swimmers. One third of subjects in both groups refused further evaluation. Our data support the need for education programs in athletes and their families to improve the detection and treatment of allergic and respiratory diseases. References: 1)Bonini M et al. MSSE 2009; 41: 1034-1041.