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Title: The number of asthma attacks reported by subjects with physician-diagnosed asthma in Italy has increased from 1998-2000 to 2007-2010. Preliminary results

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Body: In Italy, the prevalence of current asthma increased during the last 10 years, but few information are available on the temporal change of asthma severity in the same period. The present study is aimed at quantifying the temporal change in the number of asthma attacks as a proxy of asthma severity in the last 10 years in the Italian adult population with diagnosed current asthma. The same screening questionnaire was administered to random samples of 20-44 year-old subjects from the general population in 4 Italian centres (Pavia, Sassari, Turin and Verona) in 1998-2000 (in the frame of the Italian Study on Asthma in Young Adults, ISAYA; response rate 76%) and in 2007-2010 (in the frame of the Gene Environment Interaction in Respiratory Diseases, GEIRD, study; response rate 53%). The number of asthma attacks was modelled by means of a negative binomial model, adjusting for centre, sex, age, drug use and design confounders. The prevalence of subjects with physician-diagnosed current asthma and at least 1 asthma attack in the last year increased from 2.8% (95%CI:2.5;3.2%) to 4.1% (95%CI:3.6;4.7%). The mean number of asthma attacks in the last year was 3.1 (s.d. 10.1) in ISAYA and 4.4 (s.d. 13.2) in GEIRD. The adjusted relative change in the mean of asthma attacks between the 2 surveys was 1.62 (95%CI:1.16;2.29): subjects with diagnosed current asthma had a 62% higher mean number of attacks in GEIRD with respect to ISAYA. It needs to be clarified whether this increase in the mean number of asthma attacks is due to an increase in asthma severity, a poor patient compliance or a scarce physician adherence to the prescribing guidelines.