

## Asthma Incidence in School Population

### *Incidencia de asma en población escolar*

To the Editor:

We have enthusiastically read the article by Pereira Vega et al<sup>1</sup> titled "Incidencia de asma en 2 etapas de la vida: niños y adultos jóvenes de la ciudad de Huelva" (Asthma incidence in 2 stages of life: children and young adults in the city of Huelva), one of the few studies that have been published about the incidence of asthma in children in our Spain.<sup>2</sup> The article mentions that the ISAAC studies (International Study and Asthma and Allergies in Childhood), conducted by García-Marcos et al<sup>3</sup> on asthma prevalence, have not allowed for estimations on the incidence of this disease. In this respect, we must manifest that it is possible to estimate the incidence and that the results were published in 2007;<sup>4</sup> we assume that when the original was sent to the Bronco-pneumology Archives (20-6-2007), our study had still not been published.

The ISAAC study on school children between the ages of 6-7 and 13-14 years, consisted of 2 phases: the first in 1994 and the second in 2002. In Castellón, 3,607 school children of 6-7 years were studied in the first phase (80.1% participation), and a cohort of 1,698 of those children without asthma in 1994, was studied again 8 years later, when they were 14-15 years old. The determination of cases of asthma was based on a written questionnaire answered by the school children, which was complemented with another questionnaire filled out by their parents. The definition of a new case of asthma was the affirmative response to the questions "asthma at some time", "asthma diagnosed by a doctor" or "currently being treated for asthma" among school children without asthma in 1994.

There were 108 new cases in the cohort. Consequently, the accumulated incidence of asthma during the 8 year period was 6.4% (108/1,698), that would represent an approximate incidence of 8.2 cases per 1,000 people/year. To calculate the denominator in people/year, we consider the start of asthma in the middle of the period (after 4 years of follow-up), as we do not know the exact moment of diagnosis; and thus, the 108 cases entail 432 people/year and the rest of the children, 12,720 people/year, total 13,152 people/year.

The estimated incidence of asthma in Huelva was 15.69 per 1,000 people/year. Taking into consideration the absolute number of new cases of asthma may have helped to better understand the differences in the incidences between Huelva and Castellón, that can be attributed to: a) different definitions of "cases" (based on a questionnaire or based on bronco-provoking and a questionnaire);

b) different ages studied (6-7 compared with 11-16 years old at the beginning); c) differences in genders (more males in Huelva); d) relevance and selection bias problems in the studies due to the loss of follow-up in the 2 transversal cuts, and e) real differences between the populations and environments (Huelva compared to Castellón). Regarding this last point, according to the ISAAC study, the school population of Castellón presented a low prevalence of asthma compared to other areas of Spain.<sup>5</sup>

In the 2 studies, the importance of this disease in children is observed and the difficulty in obtaining an elevated participation during follow-up is confirmed. It must be remembered that the estimation of the incidence in the ISAAC was possibly by conducting 2 transversal cuts in the same population at 2 different moments. However, the validity of this design to contribute to the understanding of the epidemiology of asthma in our environment and its preventive aspect are evident.<sup>6</sup> We congratulate the authors for conducting their study, knowing the effort and dedication that is needed to do so.

## References

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