

COMMENTARY

The prevalence of asthma has reached a plateau

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During the second half of the 20th century, the prevalence of asthma increased in the Western world (1–4), and the term 'asthma epidemic' was frequently used. However, during the last 10 years, the previous continuous increase in asthma prevalence seems to have levelled off, and a plateau has been reached in many countries. This is indicated by the results of several studies of the prevalence of asthma in children and adolescents, including the International Study of Asthma and Allergies in Childhood Phase 3 (ISAAC Phase 3) (5–11). The study conducted in Patras, Greece by Anthracopoulos et al. (12), and published in this issue of *Acta Paediatrica*, adds valuable support to the view that the prevalence of asthma is no longer increasing.

REACHING A PLATEAU

Patras is the regional capital of Western Greece. It is located in the northern Peloponnese, 200 km west of Athens. The metropolitan area has a population of about 220 000. Previous surveys were conducted in 1978, 1991, 1998 and 2003, and showed a continuous increase in asthma prevalence in school children, although at a decelerating rate during the 25-year period (13). The prevalence of current wheeze and asthma in the four previous surveys was 1.5%, 4.6%, 6.0% and 6.9%, respectively (13). In the present survey, conducted in 2008, the prevalence was the same as in 2003, i.e. 6.9% (12). This indicates that the prevalence of asthma has now reached a plateau in this area of Greece.

Invited Commentary for Anthracopoulos et al. Sex-specific trends in prevalence of childhood asthma over 30 years in Patras, Greece, pages 1000–1005.

A strength of the study is that it is the fifth in a series of surveys in the same region and in the same age group, using the same questionnaire. This strongly increases the validity of the results.

In the 8–9 year age group studied by Anthracopoulos et al., the viral wheeze that is common in early childhood and is sometimes present up to school age, has largely disappeared (14). Instead, asthma with allergic sensitisation, i.e. 'true asthma', predominates. As would be expected in children who have not reached puberty, asthma was more common in males than females. In fact, the male/female ratio increased during the 30 years of surveillance. This is in contrast to results reported from Scotland showing that the male predominance in 9- to 11-year old children disappeared between 1989 and 2004 (15).

Taken together, the results from studies conducted in Italy, Australia, the UK, Germany, Sweden, Denmark and Greece indicate that the prevalence of asthma among children and teenagers is no longer increasing (5–8,10–12).

SIMILAR FINDINGS IN ADULTS

Interestingly, it has recently been reported that asthma prevalence has reached a plateau in adults too (16–18). In Sweden, asthma symptoms did not increase in the age group 20–44 years between the years 1990 and 2008 (18). By contrast, it appears that the prevalence of allergic rhinitis is still increasing (17,18).

CAUSE OF THE PLATEAU

Why has the earlier continuous increase in asthma prevalence now reached a plateau? It has been suggested that the

explanation 'remains as elusive as the explanation for the initial increase' (6). However, one possibility is that the progressive induction of asthma in genetically predisposed children is a self-limiting process with an upper limit that has now been reached (5), i.e. the levelling off reflects a 'saturation' effect. Another, contributing factor could be the decrease in smoking (18). In Sweden, 32–34% of pregnant women smoked in the early 1980s (19), compared to 9–10% at the beginning of the 21st century (20). In the age group 20–44 years, 50% reported current or previous smoking in 1990 compared with 26% in 2008 (18). Fewer smoking mothers lead to fewer fetuses being exposed to tobacco smoke in utero, and fewer active smokers also result in fewer subjects being exposed to environmental tobacco smoke.

CONCLUSION

In summary, the results of the present study by Anthracopoulos et al., as well as those of several other studies, support the notion that the increase in asthma prevalence seen between the 1950s and 1990s has now reached a plateau in the Western world.

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