Is the Prevalence of Allergy Continuously Increasing?

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Health systems and investigators worldwide have been asking themselves for many years whether the prevalence of atopic illnesses has been increasing continuously. It is mandatory to consider studies using comparable methods to validate these results.

The Aberdeen study considered the presence of asthma diagnosis, wheezing, eczema, and rhinitis between the decades of 1960 and 1990, showing a significant increase in all of them, not attributable to a diagnosis fashion but to a truly change in prevalence, using the same methodology in two time points in 25 years [1]. In this population and throughout these years, the proportion of wheezing increased from 10% to almost double, diagnosis of asthma from 4% to 10%, rhinitis from 3% to almost four times, and eczema from 5% to more than double. All these variables increased particularly noticeable in boys.

Is the Prevalence of Asthma Continuously Increasing?

In Finnish young men, the incremental tendency of asthma diagnosis remained from 0.29% in 1966 to 1.79% in 1989. The possibility of confounding factors in the diagnosing is improbable, as the exemption of military service due to incapacitating asthma was correlated with the increase reported [2].

In another wider evaluation in the UK, from 1955 to 2004, several indicators of asthma such as primary care, prescriptions, hospitalizations, and mortality evidenced an increase until the 1990s, where the curve flattened and even decreased [3].
The opposing evolution of these effects compared to the sale of inhaled corticoste-
roids (ICS) is one explanation, since the recognition of the inflammatory component
of asthma began in the 1980s.

However, also in the UK, an evaluation of prevalence in schoolchildren between
1991 and 2002 showed a significant increase in wheezing in the past 12 months, in
severe speech-limiting episodes and night waking, but non-significant increase in
medical visit because of wheezing. Here again, this last finding could be explained
by the significant increase in steroids prophylactic treatment reported in this popu-
lation [4]. This explanation will be reconsidered ahead.

Another trend study also evidenced a significant increase from 1990 to 2003 in
doctor-diagnosed asthma, more evident in females (7.3–14.6%) than in males
(7.8–9.4%), in all age groups but larger in people aged 55 and older [5].

Is It the Same in Low- and Medium-Income Countries (LMIC)
in the Planet?

Some years ago, Faniran et al. [6] compared the prevalence of asthma and atopy in
children between an affluent versus a non-affluent country, having a smaller preva-
ience of wheeze and persistent cough in Nigeria when compared to Australia
(10.2% and 5.1% compared to 21.9% and 9.6%, respectively).

Anyway, a recent report from Aît-Khaled et al. [7] evidenced a wide range of
atopic disorders prevalent all over Africa, not only with the highest presence of
current asthma in urban areas with higher standard of living (concordant with the
hygiene hypothesis) but also with a representative prevalence in endemic parasite
and tuberculosis zones (opposed to the hygiene hypothesis).

In Latin America, protective factors to avoid having asthma seem not to play a
role, and the non-allergic factors like pollution are not conditioning a higher preva-
ience of respiratory symptoms. However, this prevalence is similar to industrialized
countries [8]. In a recent survey of rural Asian children, 16.1% of wheezing preva-
ience in the past 12 months was found, not different from other developing regions
of the planet [9].

The former reports, the International Study of Allergy and Asthma in Children
(ISAAC), utilized the same methodology of evaluation, having strength enough to
make conclusions and to compare different cultures and latitudes.

However, scarce tendency data are available from LMIC since the possibility of
having these tools for evaluation has become recently available. An example is the
ISAAC Phases I and III in comparison with Brazil, where nocturnal cough and
wheezing slightly but significantly diminished [10]; however, the generalization of
these results is improbable when considering previous references.

Taken all together, we could conclude that globally, the prevalence of asthma is
high and still demonstrates a slight increasing tendency, even though there is a
lessening of differences.