

ALLERGY

# THE END OF THE HYGIENE HYPOTHESIS

18.08.2008

The authors put a question mark at the [end of the above statement](#) while I would not hesitate to put an exclamation mark there. Writing this as a comment to a new study in the [JIE](#) they summarize the evidence that the “epidemics” of asthma in Western countries has begun to decline – as hygiene standards are not declining this might indicate the end of the hygiene hypothesis.

These findings add to other contradictory evidence that warrants scepticism about the hygiene hypothesis as the primary explanation for global asthma prevalence time trends.

the 1st argument:

... the hygiene hypothesis suggests that a decrease of exposure to microbes would “through enhanced atopic immune responses” increase the incidence of allergies and allergic asthma. If true, then the protective effects would be most pronounced for the atopic asthma phenotype ... in a repeated population survey among pre-school children, an increase in asthma prevalence was not only found in children with the classic asthma pattern of wheeze, but also in all wheezing phenotypes including viral-induced wheezing ...

2nd

... asthma prevalence has begun to decline in both children and adults in Western countries, but it appears unlikely that these countries have become less clean in recent decades ...

3rd

... a further anomaly is the high asthma prevalence in countries in Latin America, which appear unlikely to have lower infection rates than European countries...

4th

... although the hygiene hypothesis is generally explained as a protective effect of early life ... recent studies suggest that exposures throughout life may be important...

In particular the authors question the very “narrow” version of the hygiene hypothesis where microbial pressure early in life protects against atopic asthma. There are many more explanations of the “narrow” version observation that a subset of the farming population may be protected from allergic asthma:

- a healthy worker effect (with dropping out of all sensitized persons over time)
- a continuous auto desensitization process
- reduced medical care ([or iatrogenic causes](#) like [antibiotics](#), [paracetamol](#) or [vitamins](#)).