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Risk factors for allergic disease

In developed countries, the prevalence of allergic rhinitis confirmed by clinical examination has been estimated to be more than 20%. A large body of evidence supports the fact that a significant increase in allergic respiratory disease (ARD) has occurred in developed countries. Epidemiological data suggest that populations who experience changes towards westernisation, urbanisation and affluence – in parallel – experience an increase in ARD. Many countries, in e.g. Eastern Europe and Asia, are currently undergoing these rapid developments – and are thus likely to experience epidemics of allergy similar to what has been seen in developed countries. In this way, in the global perspective, it is conceivable that we will see a continuing increase in ARD.

From the time of the discovery of pollen allergens being triggers of hay fever in the late 19th century, the list of known risk factors (or determinants) of ARD has been steadily growing. Today, this list is very long and we seem to know more than ever about risk factors of ARD, although we are still not certain which factors actually cause the epidemic of ARD. In contrast, the list of evidence based recommendations for primary prevention of ARD has not been growing and the scientific evidence base for several existing measures for primary prevention, e.g. allergen avoidance, has even been questioned. In this context, it may be necessary to discriminate between risk factors for the inception and exacerbation of ARD. However, significant scientific discoveries within the last 2 decades provide hope for the future of primary allergy prevention. It is generally agreed that environmental factors play an important role in the inception and exacerbation of ARD. Recently, lifestyle factors such as obesity, physical inactivity, alcohol, diet and decreased sunlight exposure have attracted increasing attention. These novel "risk factors" may open new avenues for development of preventive strategies that should be put to test in randomised studies. In the struggle to provide scientific evidence of the possible causal role of these factors, recent advantages in the field of genetic risk factors can prove useful.

ARD is a chronic intermittent disease which in the majority of patients takes a more severe course than previously recognised. On top of that, the estimated direct and indirect costs to patients and society are high. This emphasises the need for treatments that can change the course of the disease. From a public health point of view due to the high prevalence of ARD, these treatments should be easy to use and accessible to all patients. It is however disappointing that even in affluent countries a large proportion of allergic patients is not diagnosed or treated according to guidelines.

In conclusion, there is an urgent need to identify the primary causes (the responsible risk factors) of the increased ARD to be able to develop evidence based measures for primary prevention. This is emphasised by an expected continuing increase in ARD on a global basis.