



Universität
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Research Project

EFRAIM: Impact of exogenous factors in the development of allergy

Third-party funded project

Project title EFRAIM: Impact of exogenous factors in the development of allergy

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Organisation / Research unit

Bereich Kinder- und Jugendheilkunde (Klinik) / Pädiatrie (Frey)

Department

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Status Completed

Allergy has developed into a major health concern in Europe. Allergic diseases can currently be managed effectively but not cured. The onset of allergies starts early in life and there is increasing evidence that exogenous factors affecting the incidence of these illnesses exert their effect early in life, in part even prenatally. The highly inter-disciplinary EFRAIM project will prospectively investigate the main protective factors in early life influencing the development of allergies in birth cohorts conducted in allergy protective environments in five European countries. These birth cohorts have been enrolling over 1,000 children and have collected detailed information on the onset of allergic illnesses, objective measures of allergies and a vast amount of information about a number of environmental exposures. Large biobanks with a variety of biological samples have been established. In the EFRAIM project particular attention will be given to the potential role of dietary exposures, lifestyle and other environmental (e.g. microbial) exposures early in life which are causal determinants rather than triggers of the illness. The mechanisms mediating these protective exposures such as the maturation of immune responses, gut colonisation, the mucosal barrier function and the genetic and epigenetic factors interacting with the environmental exposures will be investigated. The knowledge about protective exposures early in life can be turned into the development of preventive strategies. The EFRAIM project will actively address two routes of preventive interventions in animal models and in vitro studies: the development of an allergy protective milk formula and the development of an allergy vaccine. Both approaches are based on knowledge gained in the human studies. The EFRAIM project is expected to produce ground-breaking new insights on protective agents and their mechanisms that can be used to prevent the further development of allergies.

Financed by

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