



Invited Commentary | Dermatology

The Rise in Atopic Dermatitis in Young Children What Is the Explanation?

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Mohn and colleagues¹ use a nationwide prescription database to report the increasing incidence of atopic dermatitis (AD) in Norwegian children from 2009 through 2015. This increase was especially pronounced in children younger than 1 year. Importantly, this study includes information on year and season of birth as well as incidence rates that provide additional information compared with repeated cross-sectional surveys that may miss transient, but clinically relevant, cases.

The increasing prevalence of AD has reached epidemic proportions and appears to be rising further in urban populations.² Mohn and colleagues¹ speculate that the rapid increase in the incidence rate of AD in children may be explained by environmental and lifestyle factors in genetically predisposed individuals. Their report identifies 2 potential environmental factors that could affect AD development: seasonality and climate. Atopic dermatitis developed more commonly in winter and spring, and a spike in incidence was seen in an abnormally cold year in Norway. In a US population-based study, Silverberg et al³ also observed an association between climatic factors and disease risk including an association with temperature. The exact mechanisms of how climate may affect AD risk is not clear but could be associated with the effects of indoor heating on skin barrier function.

Several additional environmental factors may explain the rising incidence of AD in children. It is well established that the risk of AD follows a rural-urban gradient. Air pollution and proximity to traffic appear to increase the risk of AD. Increased water hardness, exposure to tobacco smoke, and psychological stress may also be arguable byproducts of urbanization and have been associated with AD risk. Children raised in rural areas, on the other hand, likely experience protective exposures, including exposure to farm animals and associated microbes, that may protect against abnormal immune responses.⁴

Last, an often overlooked environmental factor that may influence AD risk is childhood skin care practices. Kelleher and colleagues⁵ found skin barrier dysfunction precedes AD development. Thus, soaps and detergents may aggravate preexisting tendencies to skin barrier dysfunction and promote skin inflammation and initiate AD in susceptible individuals. Whether skin care practices have changed over time to explain the increase in AD incidence remains unknown, but high bathing frequency and the use of fragranced lotions are commonplace in US children, 2 practices potentially harmful to the skin barrier.⁶ Protecting the skin barrier early in life with emollients appears to reduce the risk of AD development.⁷

Mohn and colleagues¹ should be commended for documenting the continuing burden of AD in young children using a novel data set. Further details on predictors of risk are needed to better design interventions that may halt this epidemic rise of AD in our pediatric populations. Reducing the incidence of AD will not only reduce the morbidity associated with the disease, but may reduce the risk of associated comorbidities.

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