

Allergy prevention — what we thought we knew

Previous recommendations for preventing allergic disease need to be critically re-examined

A MARKED INCREASE in allergic disease has occurred over the past century. For example, between 1992 and 1997, the prevalence of asthma increased by 26% and skin-prick sensitivity to house dust mite (HDM) increased by 63% in Australian children.¹ In determining the causes of this increase it is important to distinguish between primary and secondary causes of allergic disease. Primary causes are those considered to induce allergic disease in a non-sensitised person, while secondary causes are those that trigger symptoms in people who are already sensitised. Primary prevention strategies are aimed at reducing sensitisation. In the early 1980s it was considered that a clean environment, avoidance of pets, the provision of synthetic “allergy free” bedding (rather than feather bedding) and prolonged breastfeeding were all important in primary prevention. But recent epidemiological studies have challenged these beliefs.

There is evidence that a clean environment in early life may actually promote rather than inhibit the development of allergy. The “hygiene hypothesis” is based on epidemiological studies comparing the prevalence of allergic disease in “clean” and “dirty” environments. For example, children growing up in East Germany before the fall of the Berlin Wall had a lower prevalence of allergic disease than children in West Germany, despite having more exposure to pollution and infection.¹ These results have been confirmed in

similar comparative studies. Other relevant studies supporting the “hygiene hypothesis” have demonstrated fewer allergies in children from large families, in younger siblings, in children exposed earlier to day-care centres, and in children growing up on farms in Europe.

Prevention programs for allergic disease have recommended avoidance of pets, particularly cats. However, recent studies showing either less asthma or less sensitisation among children exposed to cats in infancy have challenged this view.^{2,3} Exposure to cats in infancy does not appear to increase the risk of developing asthma. With regard to sensitisation, the evidence is conflicting, with some studies suggesting decreased sensitisation following cat exposure in infancy and others indicating the reverse. Cat exposure is associated with increased environmental levels of bacterial endotoxin. There is a hypothesis that endotoxin derived from pets may play a role in the prevention of allergy, as endotoxin can induce immune deviation away from “allergic” T_H2 responses.

The common belief that feather bedding promotes and synthetic bedding prevents allergic disease is now in doubt. This belief arose because of purported allergy to feathers or accumulation of HDM allergen in feather products. In fact, feather pillows contain up to eightfold lower levels of HDM allergen and accumulate this allergen more slowly than

