

Update: Can breastfeeding and maternal diet prevent atopic dermatitis?

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The increased incidence of pediatric atopic dermatitis (AD) has resulted in more studies to determine whether AD can be prevented [1,2]. The following editorial serves as an update on the role of breastfeeding, weaning timeline, dietary restrictions, and maternal antigen avoidance in AD.

Numerous studies have concluded that exclusive breastfeeding is not an identifiable risk or protective factor in the development of AD in children [3,4,5]. Contrary to these findings, concurrent studies have found that breastfeeding during the first four months of life may result in a 33% reduction in the incidence and severity of AD in high-risk patients (those with a first degree relative with atopy) [6-9]. New evidence from a 2016 cohort study now suggests that breastfeeding itself may be a risk factor. The study proposes that the breastfeeding timeline might be crucial in determining whether it prevents or incites the development of AD in all children regardless of risk. Breastfeeding for one to six weeks and beyond six months was associated with an increased risk of developing AD at both 9 months and 5 years of age compared to those started on breast milk and subsequently maintained on an exclusive breast milk diet for six weeks to six months or less than one week [10]. These results are summarized in Figure 1.

Along with breastfeeding, introduction of other foods during the neonatal period should be considered. The odds of developing AD were found to be higher in infants who were started on solid foods at less than four months of age [10]. Additionally, in support of exclusive breastfeeding for at least four months, a separate matched case-control study

on physician-diagnosed AD concluded that weaning at 4 to 5 months of age was associated with a lower risk of developing AD [11]. Consequently, taking all current study evidence into consideration, exclusive breastfeeding for four to six months with weaning initiated at exactly 4 to 5 months may provide the lowest risk for developing AD [6-11]. Introduction of cow's milk before 9 months was associated with a small increased risk for AD [10].

Previous studies found that maternal dietary antigen avoidance during the prenatal and postnatal period was of no benefit [12-15], and maternal dietary modification during pregnancy offered little protective effect [14-19]. New studies indicate that slight dietary modifications may be beneficial. A 2014 analysis of 42 studies suggest that a maternal diet rich in fruits, vegetables, fish, and vitamin D is associated with a lower risk of AD in children [20]. Furthermore, adding a probiotic to the maternal diet, specifically *Lactobacillus*, has been found to have a small effect on preventing pediatric AD [21,22].

In conclusion, more extensive studies are needed to provide stronger evidence in making recommendations. However, at this time, the following suggestions would likely most reduce the risk for developing pediatric AD. Maternal antigen avoidance does not reduce the risk of AD in children and although dietary modification should not be recommended, a diet rich in fruits, vegetables, fish, vitamin D, and probiotics should be encouraged. Breastfeeding during the first four months of life has been shown to modestly reduce the incidence of AD in infants at high risk, while exclusive breastfeed-

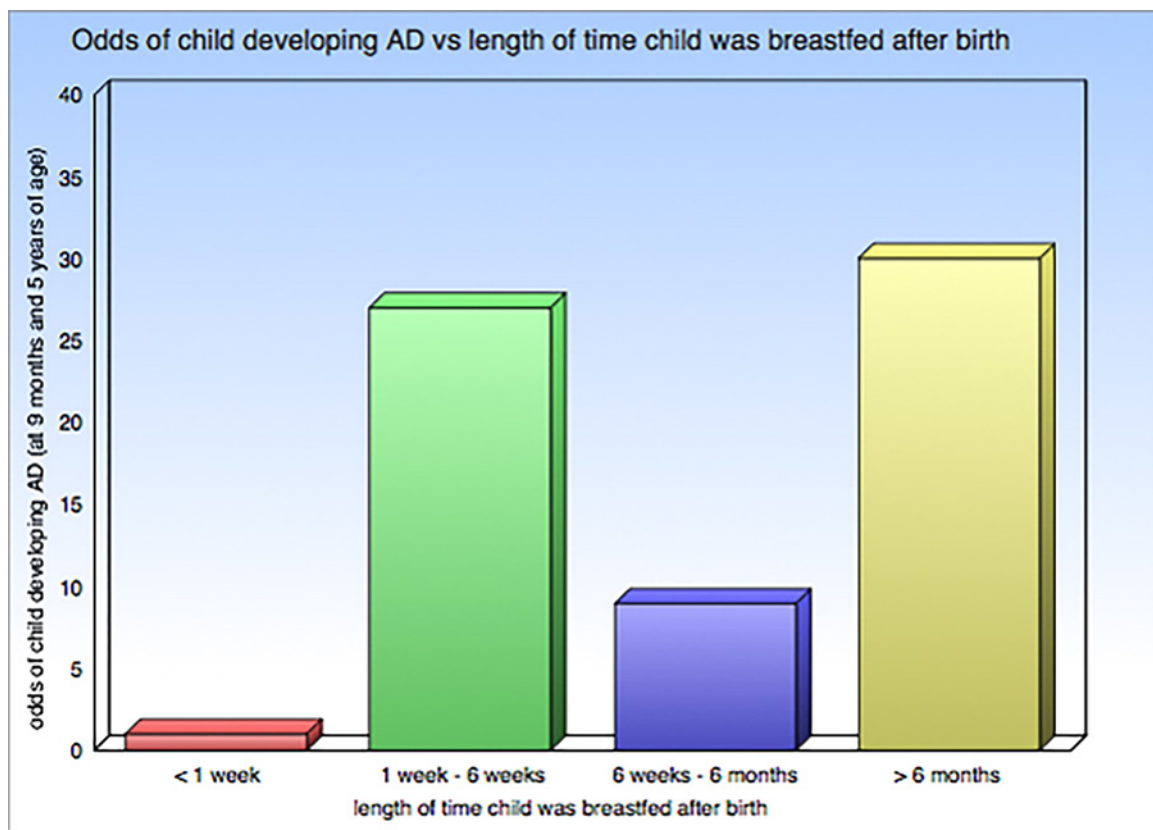


Figure 1. Relationship between a child developing atopic dermatitis at 9 months and 5 years of age in relation to length of time the child was breastfed after birth. [Copyright: ©2017 Little et al.]

ing for four to six months with weaning initiated at exactly 4 to 5 months may provide the lowest risk for developing AD in all children [10,11].

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