

Probiotics Beneficial in Preventing Eczema

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Eczema is a chronic skin condition, characterized by dry, red, flaky patches of skin. Eczema appears most commonly on the face, neck, elbows, wrists, knees, behind the ears, and on the scalp. During acute episodes, the patches become oozing, inflamed, and itchy. There are currently two recognized classifications of dermatitis: atopic and contact. Contact dermatitis is typically aggravated by direct skin contact with allergens, such as chemicals, wool, lanolin, soap, or cosmetics. Atopic eczema is usually triggered by inhaled or ingested allergens, such as certain foods, pollen, dust, or animal dander. Some literature discusses a third classification, "dysregulatory microbial eczemas." This category refers to eczema caused by the introduction of microflora into the horny layer of the skin, and a breakdown in the epidermis, resulting in inflammation.

Bifidobacteria are bacteria that exist primarily in the large intestine although some also inhabit the lower part of the small intestine. To date, 28 species of bifidobacteria have been isolated from the intestines of humans and animals. The following five are the predominant species that occur in humans: *Bifidobacteria bididum* (bifidus), *B. infantis*, *B. breve*, *B. adolescentis*, and *B. longum*. Bifidobacteria metabolize sugar to produce lactate and acetate. This creates a slightly acidic pH, which is an environment that is unfavorable for the growth of pathologic organisms. Bifidobacteria are the predominant bacteria that inhabit the feces of healthy infants. Mother's milk contains growth factors that stimulate the proliferation of bifidobacteria in infants. The fecal flora of breast fed infants has been found to be approximately 99 percent bifidobacteria whereas the fecal flora of bottle fed infants is reported to be less than 20 percent bifidobacteria.

Lactobacillus acidophilus is one of the most prominent strains of beneficial bacteria that predominantly reside in the small intestine. They provide a number of beneficial functions and effects such as prevention of bacterial infections, enhancement of digestion and absorption of nutrients, metabolism of cholesterol, and a strengthening of the immune system. Maintaining a healthy colonization of intestinal microflora with beneficial bacteria such as *L. acidophilus* is a key factor in an individual's overall health.

Researchers recently investigated whether probiotic supplementation could prevent the development of eczema in infants at high risk for allergies. The randomized, double-blind, placebo-controlled trial included 112 pregnant women with a family history of allergic diseases. Each participant received either a once-daily probiotic supplement or a placebo beginning at 4 to 8 weeks before delivery and continuing until 6 months after delivery. The infants were exclusively breastfed for the first 3 months and were then fed either breast milk or cow's milk formula from 4 to 6 months of age. A total of 68 infants completed the study. It was found that the prevalence of eczema in the probiotic group was significantly lower than in the

placebo group. Based on the results from this study, probiotic supplementation appears to be an effective approach in preventing the development of eczema in infants at high risk for allergies during the first year of life.¹

¹ Kim JY, Kwon JH, Ahn SH, et al. Effect of probiotic mix (Bifidobacterium bifidum, Bifidobacterium lactis, Lactobacillus acidophilus) in the primary prevention of eczema: a double-blind, randomized, placebo-controlled trial. *Pediatr Allergy Immunol.* 2009.