



Therapeutic action elicited by *L. rhamnosus* GG in children with Atopic Dermatitis

Results from the ProPAD trial

OBJECTIVE:

The ProPAD study aimed to investigate the therapeutic efficacy of *Lactocaseibacillus rhamnosus* GG (*L. rhamnosus* GG) on disease severity and the microbiome of children diagnosed with atopic dermatitis (AD).

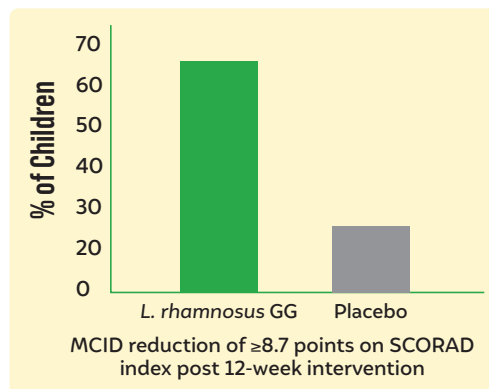
METHODS:

91 children with AD (age 6-36 months) were randomized in a double-blind placebo-controlled trial to receive placebo or *L. rhamnosus* GG at a daily dose of 1×10^{10} CFU for 12-weeks.

Primary Study Outcome: The principal aim was to evaluate the therapeutic efficacy of *L. rhamnosus* GG supplementation on AD severity as measured by the Scoring Atopic Dermatitis (SCORAD) index compared at baseline and again post 12-week intervention. The minimum clinically important difference (MCID) was defined as a reduction of ≥ 8.7 points on the SCORAD index.

Secondary Study Outcomes: Additional measures included days without use of rescue medication, quality of life as measured by the Infant Dermatitis Quality of Life Questionnaire (IDQOL), and microbiome sampling.

Reduction in Disease Severity



RESULTS:

A significantly higher rate of children in the *L. rhamnosus* GG probiotic intervention group achieved MCID reduction in disease severity from baseline over 12 weeks. Those in the probiotic group also demonstrated a significantly higher number of days without rescue medications and significantly improved IDQOL score. Furthermore, a beneficial modulation of skin and gut microbiome was observed only in the group receiving the probiotic intervention.

CONCLUSION:

Results from this clinical trial support the potential of the probiotic *L. rhamnosus* GG as an adjunctive therapeutic strategy for pediatric patients diagnosed with AD. The beneficial effects on disease severity and quality of life were paralleled with a beneficial modulation of the microbiome likely mediated by short chain fatty acid production.

1 Carucci, L, Nocerino, R, Paparo, L, et al. Therapeutic effects elicited by the probiotic *Lactocaseibacillus rhamnosus* GG in children with atopic dermatitis. The results of the ProPAD trial. *Pediatr. Allergy Immunol.* 2022; 33:e13836. doi: 10.1111/pai.13836