

Probiotics: make little or no difference in patient rated symptoms for eczema

Vanessa Jordan PhD

New Zealand Cochrane Fellow, University of Auckland, Auckland, New Zealand

COCHRANE REVIEW: Makrgeorgou A, Leonardi-Bee J, Bath-Hextall FJ, Murrell DF, Tang MLK, Roberts A, Boyle RJ. Probiotics for treating eczema. *Cochrane Database of Systematic Reviews* 2018; 11: CD006135. doi:10.1002/14651858.CD006135.pub3

BACKGROUND: Eczema is a common skin disease affecting up to 25% of children and 2–3% of adults.¹ There is currently no known cure for eczema but there are a wide range of treatments available to relieve symptoms. Probiotics have been suggested as a potential treatment for eczema. Low microbial diversity in the neonatal period is associated with the development of eczema in the first year of life.² Probiotics are proposed to influence the gut microbiome and potentially may improve the symptoms and signs of eczema.³

Outcome measured	Success	Evidence	Harms
Participant- or parent-rated symptoms of eczema	There was no evidence that probiotics improved the symptoms of eczema. Using a combined (0–20) score for sleep disturbance and itch, participants in the control group had mean scores ranging from 2–7.9. The groups that were given probiotics had a mean score of 0.44 points lower than the control group but the confidence intervals indicated this could be anywhere from 1.22 points lower to 0.33 points higher. There was also no evidence to suggest that probiotics substantially changed eczema with a OR of 0.40 (0.14 to 1.15)	This evidence is of moderate quality and is based on 754 participants from 13 studies. This evidence is of low quality and is based on 135 participants from three studies.	There were 105 adverse events reported from 624 participants in 8 studies. These were mainly gastrointestinal events and they were equally represented in the groups that consumed the probiotics and the control groups.
Participant- or parent-rated <i>participant</i> quality of life	There was no evidence that probiotics improved overall quality of life with a difference of 0.03 (–0.36 to 0.42) standard deviation units.	This evidence is of low quality and is based on 552 participants from six studies.	
Parent-rated <i>family</i> quality of life	There was no evidence that probiotics improved overall quality of life for the family with a difference of 0.19 (–0.56 to 0.18) standard deviation units.	This evidence is of very low quality and is based on 358 participants from three studies.	

J PRIM HEALTH CARE
2018;10(4):352–353.
doi:10.1071/HC15938
Published online 19 December 2018

CORRESPONDENCE TO:
Vanessa Jordan
v.jordan@auckland.ac.nz

All people residing in New Zealand have access to the Cochrane Library via the Ministry website www.health.govt.nz/cochrane-library

CLINICAL BOTTOM LINE: This Cochrane review showed that using probiotics probably makes little or no difference to eczema symptoms as reported by parents or sufferers of eczema. Probiotics also may make no difference to quality of life of sufferers or their families. However, there is currently no evidence to suggest probiotics cause any adverse effects either. Authors of this review also did a trial sequential analysis to determine the influence of future studies and showed that these results are unlikely to change with future research.⁴

References

1. Eichenfield LF, Wynn LT, Chamlin SL, et al. Guidelines of care for the management of atopic dermatitis: section 1. Diagnosis and assessment of atopic dermatitis. *J Am Acad Dermatol*. 2014;70(2):338–51. doi:10.1016/j.jaad.2013.10.010
2. Ismail IH, Oppedisano F, Joseph SJ, et al. Reduced gut microbial diversity in early life is associated with later development of eczema but not atopy in high-risk infants. *Pediatr Allergy Immunol*. 2012;23(7):674–81. doi:10.1111/j.1399-3038.2012.01328.x
3. Simonyte Sjödin K, Vidman L, Rydan P, West CE. Emerging evidence of the role of gut microbiota in the development of allergic diseases. *Curr Opin Allergy Clin Immunol*. 2016;16(4):390–5. doi:10.1097/ACI.0000000000000277
4. Makrgeorgou A, Leonardi-Bee J, Bath-Hextall FJ, et al. Probiotics for treating eczema. *Cochrane Database Syst Rev*. 2018;11CD006135