

SHORT FACTS ON THE SYSTEMATIC REVIEW AND META-ANALYSIS

Use of probiotics in the treatment of functional abdominal pain in children – systematic review and meta-analysis

Principal Investigator

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Objective

To evaluate strain-specific probiotic effects on functional abdominal pain (FAP) in children in order to reach objective conclusion on the efficacy of specific probiotic strains in the treatment of FAP in children.

Method and included studies

The systematic review and meta-analysis were performed based on the Cochrane Handbook for Systematic Reviews of Interventions guidelines. Only randomised placebo-controlled studies published in English were included. All children were diagnosed with FAP according to Rome criteria.

Outcome parameters

Primary outcome was number of children with no symptoms (presence of pain) at end of intervention. Secondary outcomes included intensity of pain after intervention and after follow-up, number of days missed from school, number of days without pain and adverse events.

Summary of main results

Nine randomised, controlled studies were included in the systematic review (702 children, 506 with FAP, four to 18 years of age), whereof eight could be compared in the meta-analysis (a total of 641 children).

L. rhamnosus GG (LGG) and *L. reuteri* DSM 17938 were the only two probiotic strains investigated. Neither of them significantly increased the number of children without symptoms at the end of intervention.

L. reuteri DSM 17938 showed a significant reduction in pain intensity at four weeks and beyond, as well as an increased number of days without pain. Studies evaluating LGG found no significant effects for any of the reported outcomes. No adverse events were found in the eight studies where this was reported.

Conclusion

L. reuteri DSM 17938 can be effective in reducing pain intensity and increasing number of days without pain in children suffering from FAP, at a dose of at least 1×10^8 CFU/day and supplementation for at least four weeks. No significant effects of LGG supplementation in the treatment of FAP was shown.

Based on the outcome of the meta-analysis, no firm conclusions can be given and further studies, investigating long-term outcomes, are needed.

