primary studies - published RCT

Effects of synbiotic supplementation on the pulmonary manifestations and anthropometric measurements in children with cystic fibrosis- a randomized clinical trial

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Study design (if review, criteria of inclusion for studies)

Randomized, placebo-controlled clinical trial

Participants

40 children with CF aged from 6 to 20â€‰years.

Interventions

Participants were designated to receive either L. reuteri or placebo daily for 4â€‰months.

Outcome measures

Pulmonary function tests, weight, height and body mass index (BMI) z-scores were measured pre and post treatment.

Main results

The median baseline BMI of the patients was 16.28â€‰kgâ€‰m(-2). A significant change in the probiotic group's BMI z-score after the study period was observed (Pâ€‰=â€‰0.034) but not for weight and height z-scores (Pâ€‰>â€‰0.05). After treatment, Pseudomonas aeruginosa grew in sputum cultures of seven in the placebo and one patient in the intervention group (Pâ€‰=â€‰0.03) while at baseline it grew in the sputum of four patients in each group. There was no significant difference in forced expiratory volume in the first second, forced expiratory flow at 25-75% or forced vital capacity change between the two groups after the treatment period (Pâ€‰>â€‰0.05). Additionally, no significant differences were found in pulmonary exacerbations, hospitalization frequencies or COVID-19 infection between the two groups during the study (Pâ€‰>â€‰0.05).

Authors' conclusions

The results suggest that L. reuteri supplementation may impact the growth of severely malnourished CF patients. Furthermore, it may be concluded that this strain might reduce P. aeruginosa in the sputum culture of CF patients.

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See also

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Keywords

Adolescent; Child; Lactobacillus; Probiotics; Supplementation; Oral; Immunoregulatory; pharmacological_intervention; Adult;