primary studies - published RCT

Effect of synbiotic supplementation in children and adolescents with cystic fibrosis: a randomized controlled clinical trial.

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

Randomized, placebo-controlled, double-blind, clinical-trial

Participants

Control group (CG, n = 17), placebo-CF-group (PCFG, n = 19), synbiotic CF-group (SCFG, n = 22), PCFG negative (n = 8) and positive (n = 11) bacteriology, and SCFG negative (n = 12) and positive (n = 10) bacteriology.

Interventions

Synbiotic supplementation vs placebo

Outcome measures

Markers of lung function (FEV1), nutritional status [body mass index-for age (BMI/A), height-for-age (H/A), weight-for-age (W/A), upper-arm fat area (UFA), upper-arm muscle area (UMA), body fat (%BF)], and inflammation [interleukin (IL)-12, tumor necrosis factor-alpha (TNF-alpha), IL-10, IL-6, IL-1beta, IL-8, myeloperoxidase (MPO), nitric oxide metabolites (NOx)] were evaluated before and after 90-day of supplementation with a synbiotic.

Main results

No significance difference was found between the baseline and end evaluations of FEV1 and nutricional status markers. A significant interaction (time vs. group) was found for IL-12 (p = 0.010) and myeloperoxidase (p = 0.036) between PCFG and SCFG, however, the difference was not maintained after assessing the groups individually. NOx diminished significantly after supplementation in the SCFG (p = 0.030). In the SCFG with positive bacteriology, reductions were found in IL-6 (p = 0.033) and IL-8 (p = 0.009) after supplementation.

Authors' conclusions

Synbiotic supplementation shown promise at diminishing the pro-inflammatory markers IL-6, IL-8 in the SCFG with positive bacteriology and NOx in the SCFG in children/adolescents with CF.

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See also

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Keywords

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