ABSTRACT

Background: Atopic dermatitis (AD) is a chronically relapsing skin disease that occurs most commonly during early infancy and childhood. Probiotics in AD could be considered for a treatment option. This study conducted to examine whether of Lactobacillus plantarum (LP) improves AD in children.

Purpose: To evaluate total immunoglobulin (IgE) serum level, interleukin (IL) -4 and interferon-gamma (IFN-γ) T lymphocyte CD4+ and Scoring Atopic Dermatitis (SCORAD) index in children with AD treated with LP and placebo.

Method: In this experimental study, 22 children aged 0-14 years was randomized to given LP $10^{10}$ Colony Factor Unit (CFU) and placebo once daily for 12 weeks. Total IgE serum, IL-4, IFN-γ level and SCORAD index were evaluated in week 14.

Result: 12 patient in probiotic group and 10 patient in placebo group completed the study. Total IgE serum level in probiotic group at week 14 is $504,533 \pm 415,686$ while in placebo group is $909,580 \pm 885,051$. IL-4 in probiotic group at week 14 is $4,277 \pm 4,892$, while in placebo group is $5,815 \pm 6,633$. IFN-γ in probiotic group at week 14 is $0,528 \pm 0,63$, while in placebo group is $0,684 \pm 1,006$. The SCORAD score at week 14 was lower in the probiotic group than in the placebo group ($18,533 \pm 14,200$ vs $22,040 \pm 8,817$).

Conclusions: Our results suggest that supplementation with probiotic LP is beneficial in the treatment of children with AD.

Keyword: atopic dermatitis, Lactobacillus plantarum, management