

The Effect of Conjugated Linoleic Acid Supplementation on the Nutritional Status of COPD Patients

Background: COPD patients are exposed to anorexia and malnutrition. One of the possible mechanisms in these patients is the increase of inflammatory markers considering the anti-inflammatory role of Conjugated Linoleic Acid (CLA), this study aimed to investigate the effect of CLA supplementation on the nutritional status of COPD patients.

Methods: In a double-blind clinical trial, 93 COPD patients who volunteered for participating in the study and filled out a written consent were randomly assigned to control and supplementation groups. The patients in the supplementation group received 3.2 gram of CLA and those in the control group received placebo on a daily basis for 6 weeks. For IL1 β assessment, the patients' anthropometric indices and appetite points were checked and blood samples were taken from them both before and after the treatment. Moreover, in order to investigate the changes in the caloric intake trend during the study, their dietary intake levels were assessed using the 24-hour dietary recall three days a week at the beginning, in the fourth week, and at the end of the study. Eventually, 90 patients accomplished the study (45 in each group). The obtained results were analyzed using the appropriate statistical tests.

Results: At the end of the study, the results demonstrated a significant increase in appetite score, average caloric intake and macronutrients intake ($p < 0/05$), while it appeared to be a significant decrease in the serum level of IL1 β in among the patients of supplementation group. Meanwhile, although their weight and body mass index were also higher compared to their own initial state as well as those in the control group, the differences were not significant.

Conclusion: The findings of this research indicate that the consumption of CLA supplementation can be effective in regulating the appetite and improving nutritional status of the patients suffering from COPD through adjusting the serum level of IL1 β .

Key words: COPD, CLA, appetite, nutritional status, IL1 β