

# Abstract

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## **Omega-3 fatty acids, vitamin C and Zn supplementation in asthmatic children: a randomized self-controlled study.**

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**OBJECTIVES:** Bronchial asthma is a chronic inflammatory airways disease. Nutritional intervention is an important tool to decrease the severity of many chronic inflammatory diseases including asthma. The aim of this study is to evaluate the role of omega-3 fatty acids, vitamin C and Zn in children with moderately persistent asthma.

**PATIENTS AND METHODS:** Randomly assigned, placebo-self-controlled 60 children with moderate persistent asthma completed the study, were subjected to alternating phases of supplementation with omega-3 fatty acids, vitamin C and Zn either singly or in combination separated with washout phases. Childhood asthma control test (C-ACT), pulmonary function tests and sputum inflammatory markers were evaluated at the beginning of the study and at the end of each therapeutic phase.

**RESULTS:** There was a significant improvement of C-ACT, pulmonary function tests and sputum inflammatory markers with diet supplementation with omega-3 fatty acids, vitamin C and Zn ( $p < 0.001^*$ ). There was also significant improvement with the combined use of the three supplementations than single use of any one of them ( $p < 0.001^*$ ).

**CONCLUSION:** Diet supplementation with omega-3 fatty acids, Zn and vitamin C significantly improved asthma control test, pulmonary function tests and pulmonary inflammatory markers in children with moderately persistent bronchial asthma either singly or in combination.

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