

IMMUNE MODULATION AFTER LONG-TERM KARATE PRACTICE

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Introduction: Karate is a Japanese martial arts system which traces its roots back to China, and is nowadays widely popular both as a method of self-defense, as well as a discipline with potential physical and psychological benefits. However, karate has been scarcely investigated from a psychobiological perspective, and its effects on the immune system remain virtually unknown. Therefore, we designed the present study with the aim of analyzing the effects of several years of regular karate practice on different immune parameters.

Methods: 27 healthy volunteer subjects participated in the study, 15 being allocated to the experimental group, and 12 to the control group. Experimental subjects were all karate players who had practiced this martial art for a minimum of three years. Blood samples for the quantification of immune parameters (leukocytes, neutrophils, monocytes, eosinophils, basophils, lymphocytes, IgG, IgA, IgM, IgE) were taken in both groups. As statistical analysis, a t-test for independent groups was performed in each dependent variable.

Results: Compared to the control group, karate practitioners exhibited a significantly higher number of leukocytes, monocytes, and lymphocytes, as well as greater serum concentrations of IgG and IgM.

Conclusions: Our findings show that long-term karate practice is related to a broad modulation of immune parameters, including leukocytes counts as well as immunoglobulin concentrations. This peculiar immunomodulatory profile, apart from its psychobiological relevance, may have noteworthy clinical implications. Further investigation would be necessary to fully elucidate the influence that long-term karate training can exert on the immune system.

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