

# Abstract

Nutr Res. 2012 Apr;32(4):241-50.

## **Omega-3 fatty acids administered in phosphatidylserine improved certain aspects of high chronic stress in men.**

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**BACKGROUND:** Nutrients such as omega-3 oils and phosphatidylserine have been considered to exert stress-buffering effects.

**OBJECTIVE:** In this randomized, double-blind, placebo-controlled trial, we investigated effects of omega-3 phosphatidylserine (PS) on perceived chronic stress, assessed by the Trier Inventory for Chronic Stress (Schulz P, Schlotz W, Becker P. TICS: Trierer Inventar zum chronischen Stress. Göttingen, Germany: Hogrefe, 2004.), and on psychobiological stress responses to an acute laboratory stress protocol, the Trier Social Stress Test (Neuropsychobiology.1993;28:76-81), at baseline and after the treatment period. We hypothesized that omega-3 PS supplementation lowers chronic and acute stress.

**METHODS:** Sixty healthy nonsmoking men aged 30 to 60 years either received omega-3 PS or a matching placebo for 12 weeks.

**RESULTS:** Results revealed no significant main effect of omega-3 PS supplementation on stress measures. However, by accounting for chronic stress level of study participants, stress-reducing effects of omega-3 PS were found exclusively for high chronically stressed subjects. As expected, these individuals also showed a blunted cortisol response to the Trier Social Stress Test. Treatment with omega-3 PS seemed to restore the cortisol response in this particular subgroup of low responders.

**CONCLUSION:** These results are in line with previous findings. We conclude that subgroups characterized by high chronic stress and/or a dysfunctional response of the hypothalamus-pituitary-adrenal axis may profit from omega-3 PS supplementation.

PMID: 22575036

