

# **Geriatric Depression Syndrome is Ameliorated by Integration with Long Chain Omega-3 Fatty Acids**

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Depression is a relatively common syndrome in older adults; it is associated with distress, loss of interest in pleasurable activities, morbidity, changes in sleep patterns and weight and reduced cognitive abilities and concentration. The intake of long chain omega-3 polyunsaturated fatty acids (LCPUFA's) has been positively correlated with health in several studies and has also been linked to a variety of neuropsychiatric disorders, in particular greater intake of  $\omega$ -3 LCPUFA may be beneficial for depressed mood.

For these reasons in this work we evaluated the effects of dietary supplementation with omega-3 in elderly depressed subjects; the follow up was made by measuring the arachidonic acid / eicosapentaenoic acid ratio (AA/EPA) in blood and in red blood cell phospholipids trying to correlate this parameter with the psychological evaluations (evaluated by Geriatric Depression Scale). Depressed patients were divided in two groups and supplemented with EPA/DHA 2:1 2,5 mg/die or placebo (Placebo and  $\omega$ -3) for 2 months. Results were compared also with a group of subjects with the same age who used omega-3 supplement, without psychiatric disorder (Control).

Depressed patients show at time zero an higher AA/EPA value as compared with control subjects, mainly due to a lower value of EPA; also the content of DHA was decreased. After supplementation in  $\omega$ -3 patients there was a significant amelioration of the clinical condition, paralleled by a significant decrease of AA/EPA ratio both in blood and in membrane phospholipids. Also membrane composition was affected with changes in phospholipid pattern and in their fatty acid composition.

These preliminary data reinforce the hypothesis that supplementation of diet with omega-3 fatty acids provides benefits to the subject's health state and seems to improve cognitive and psychological functions.