

# Abstract

Psychosom Med. 2004 Mar-Apr;66(2):276-82.

## Exploratory open label, randomized study of acetyl- and propionylcarnitine in chronic fatigue syndrome.

Vermeulen RC, Scholte HR.

Research Center Amsterdam, Amsterdam, Netherlands.

**OBJECTIVES:** We compared the effects of acetylcarnitine, propionylcarnitine and both compounds on the symptoms of chronic fatigue syndrome (CFS).

**METHODS:** In an open, randomized fashion we compared 2 g/d acetyl-L-carnitine, 2 g/d propionyl-L-carnitine, and its combination in 3 groups of 30 CFS patients during 24 weeks. Effects were rated by clinical global impression of change. Secondary endpoints were the Multidimensional Fatigue Inventory, McGill Pain Questionnaire, and the Stroop attention concentration test. Scores were assessed 8 weeks before treatment; at randomization; after 8, 16, and 24 weeks of treatment; and 2 weeks later.

**RESULTS:** Clinical global impression of change after treatment showed considerable improvement in 59% of the patients in the acetylcarnitine group and 63% in the propionylcarnitine group, but less in the acetylcarnitine plus propionylcarnitine group (37%). Acetylcarnitine significantly improved mental fatigue ( $p = .015$ ) and propionylcarnitine improved general fatigue ( $p = .004$ ). Attention concentration improved in all groups, whereas pain complaints did not decrease in any group. Two weeks after treatment, worsening of fatigue was experienced by 52%, 50%, and 37% in the acetylcarnitine, propionylcarnitine, and combined group, respectively. In the acetylcarnitine group, but not in the other groups, the changes in plasma carnitine levels correlated with clinical improvement.

**CONCLUSIONS:** Acetylcarnitine and propionylcarnitine showed beneficial effect on fatigue and attention concentration. Less improvement was found by the combined treatment. Acetylcarnitine had main effect on mental fatigue and propionylcarnitine on general fatigue.

PMID: 15039515