

significantly increased serum levels of bone-specific alkaline phosphatase and osteocalcin (markers of bone formation) at 6 and 12 months, whereas HRT significantly decreased these values at 6 and 12 months. At 12 months, compared with baseline, the mean BMD of the femoral neck increased by 3.6% in the genistein group and by 2.4% in the HRT group, compared with a 0.65% decrease in the placebo group ($p < 0.01$ for each active treatment vs. placebo). At the lumbar spine the mean changes in BMD were 3.0% for genistein, 3.8% for HRT, and -1.6% for placebo ($p < 0.001$).

Comment: These results indicate that administration of genistein (an isoflavone present in soybeans) to osteopenic postmenopausal women reduced bone resorption, increased bone formation, and increased BMD of the femoral neck and lumbar spine. The effect on BMD was similar to that of conventional hormone-replacement therapy. The results of this study are consistent with those of previous research, in which genistein stimulated osteoblastic bone formation, inhibited osteoclastic bone resorption, and prevented bone loss in ovariectomized rats. Beneficial effects of isoflavone-rich soy protein on BMD have also been reported in both animals and postmenopausal women. The effect of genistein may be mediated, in part, by its estrogenic activity. However, the response to genistein in the present study differed from that of conventional HRT. Specifically, both treatments reduced markers of bone resorption, but only genistein increased markers of bone formation. Because their actions are not the same, it is possible that genistein (or soy protein) might enhance the effect of HRT; it is also possible that soy isoflavones might increase the risks associated with HRT. Additional research is needed to investigate these possibilities.

Morabito N, et al. Effects of genistein and hormone-replacement therapy on bone loss in early postmenopausal women: a randomized double-blind placebo-controlled study. *J Bone Miner Res* 2002;17:1904-1912.

Nutritional supplement effective against bipolar disorder

Fourteen patients (aged 19-46 years) with a DSM-IV diagnosis of bipolar disorder, who were taking a mean of 2.7 psychotropic medications each, were treated for 6 months with a broad-based nutritional supplement (E.M. Power+), containing the following (daily doses): vitamin A (3,333 IU), vitamin C (250 mg), vitamin D (400 IU), vitamin E (100 IU), thiamine (5 mg), riboflavin (5.5 mg), niacinamide (25 mg), pyridoxine (7 mg), folic acid (400 mcg), vitamin B12 (250 mcg), biotin (25 mcg),

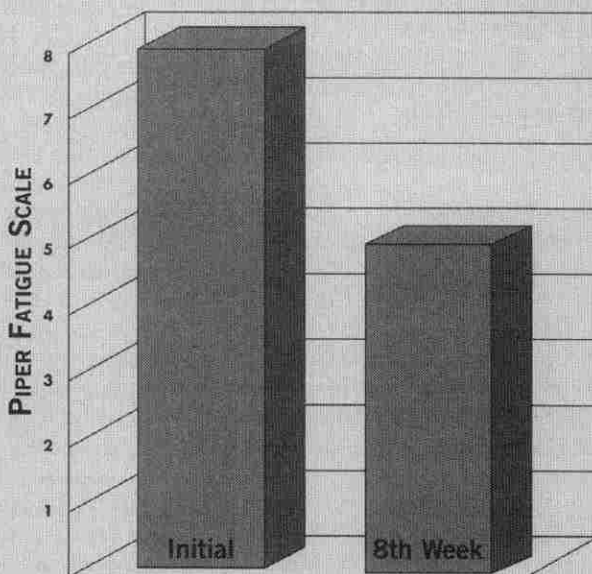
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pantothenic acid (6 mg), calcium (550 mg), magnesium (250 mg), iron (6 mg), phosphorus (350 mg), iodine (75 mcg), zinc (20 mg), selenium (100 mcg), copper (3 mg), manganese (4 mg), chromium (250 mcg), molybdenum (66 mcg), potassium (100 mg), and a proprietary blend (doses not specified) of DL-phenylalanine, L-glutamine, citrus bioflavonoids, grape seeds, choline, inositol, *Ginkgo biloba*, L-methionine, germanium, boron, vanadium, and nickel. At baseline and periodically thereafter, patients were assessed with the Hamilton Rating

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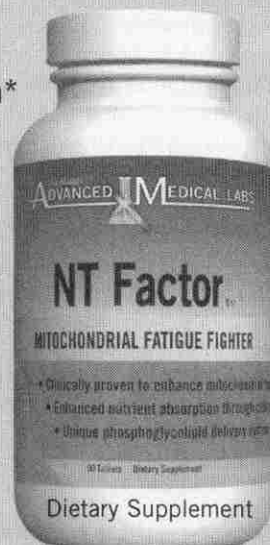
33% FATIGUE REDUCTION



Study results showed a 33% reduction in fatigue (using the Piper Fatigue Scale) after eight weeks of supplementation with NT Factor™.

Source: The Journal of The American Nutraceutical Association, Vol. 6 No. 1, Winter 2003

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent disease.



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Scale for Depression (HAM-D), the Brief Psychiatric Rating Scale (BPRS), and the Young Mania Rating Scale (YMRS). For the 11 patients who completed the trial, the mean HAM-D decreased (improved) from 19.0 at baseline to 5.4 at the last visit (71% improvement; $p < .01$); the mean BPRS score decreased (improved) by 79% ($p < .05$); the mean YMRS score decreased (improved) by 60% ($p < .01$); and the need for psychotropic medications decreased by 63% ($p < .01$). In two cases, the supplement replaced psychotropic medication and the patients remained well. The only reported side effect was nausea, which was infrequent, minor, and transient. In general, improvement began within two weeks of starting the nutritional supplement.

Comment: This open-label study suggests that a broad-spectrum nutritional supplement can reduce the severity of illness in some patients with bipolar disorder. Although there was no control group in this study, the magnitude of the improvement was greater than one might expect from a placebo effect alone. Other investigators have also found this supplement to be effective for bipolar disorder (*J Clin Psychiatry* 2001;62:933-935). This product should be used cautiously, as it may potentiate the effect of antipsychotic drugs, possibly increasing their toxicity. Additional research is needed to determine the optimal way to transition patients from psychotropic drugs to nutritional therapy. E.M. Power+ was originally manufactured by Evince International; it is currently manufactured by Synergy Group of Canada (1-888-878-3467). The monthly retail cost is \$68.00.

Kaplan BJ, et al. Effective mood stabilization with a chelated mineral supplement: an open-label trial in bipolar disorder. *J Clin Psychiatry* 2001;62:936-944.

Breast-feeding reduces risk of obesity

A population-based sample of 32,200 Scottish children was studied at age 39-42 months. The prevalence of obesity (defined as body mass index [BMI] at or above the 95th percentile) was 9.1% in those who had been formula-fed and 7.2% in those who had been breast-fed. The prevalence of obesity was 20.8% lower in children who had been breast-fed than in those who had been formula-fed. After adjustment for birthweight, gender, and socioeconomic status, the risk of obesity was significantly lower by 28% in breast-fed children than in formula-fed children.

Comment: These results suggest that breast-feeding reduces the risk of becoming obese later in childhood. Although the mechanism by which breast-feeding might prevent obesity is not known, there are several possible explanations. First, the higher content of docosahexaenoic acid (DHA) in human milk than in infant formulas may promote better development of the brain, including the area in the hypothalamus that controls appetite. Second, as many formulas contain refined sugars, feeding such formulas might promote the development of reactive hypoglycemia, resulting in cravings for refined carbohydrates. Third, infants who experience the comfort of the breast might be less likely to seek substitute forms of comfort, such as overeating. Whatever the mechanism, this study provides one more reason for mothers to breast-feed their babies.

Armstrong J, et al. Breastfeeding and lowering the risk of childhood obesity. *Lancet* 2002;359:2003-2004.

Vegetarian source of vitamin B12

Feeding nori (dried purple laver, a commonly consumed seaweed) to vitamin B12-deficient rats significantly improved vitamin B12 status, as demonstrated by the elimination of methylmalonic acid from the urine and by a significant increase in hepatic vitamin B12 concentrations (especially adenosylcobalamin). The amount of total vitamin B12 in nori, determined by 1) *Lactobacillus* bioassay and 2) chemiluminescent assay with hog intrinsic factor, was estimated to be 55 and 59 mcg/100 g dry weight, respectively. Five different biologically active vitamin B12 compounds were identified in nori (cyanocobalamin, hydroxocobalamin, sulfitecobalamin, adenosylcobalamin and methylcobalamin).

Comment: Vegetarians are at risk of developing vitamin B12 deficiency, as this vitamin is present almost exclusively in animal products. Several different seaweeds have been claimed to contain vitamin B12. The research in this area is conflicting, however, and many of the studies purporting to show vitamin B12 activity did not distinguish between true vitamin B12 and biologically inactive vitamin B12 analogues. The present study provides strong evidence that nori does, indeed, contain bioavailable forms of vitamin B12.

Takenaka S, et al. Feeding dried purple laver (nori) to vitamin B12-deficient rats significantly improves vitamin B12 status. *Br J Nutr* 2001;85:699-703.

Hawthorn (crataegus) effective against heart failure: double-blind study

Two-hundred nine patients (mean age, 68 years) with chronic congestive heart failure (New York Heart Association [NYHA] class III) were randomly assigned to receive, in double-blind fashion, crataegus extract WS 1442 standardized to contain 18.75% oligomeric procyanidins (900 or 1,800 mg/day) or placebo for 16 weeks. After 16 weeks of treatment, the maximal tolerated workload during a bicycle exercise test had increased to a significantly greater extent in the high-dose crataegus group than in the low-dose crataegus group ($p = 0.01$) and the placebo group ($p < 0.02$). Symptoms of heart failure decreased to a significantly greater degree in the high-dose ($p = 0.004$) and low-dose ($p = 0.04$) crataegus groups than in the placebo group; the high dose was slightly but not significantly more effective than the low dose. No serious adverse events were reported, and the number of adverse events was nearly twice as high in the placebo group as in the crataegus group.

Comment: This study demonstrated that crataegus extract WS 1442 increased exercise capacity and reduced signs and symptoms of heart failure, without causing significant adverse effects, in patients with NYHA class III congestive heart failure. Hawthorn has been used for many decades by a minority of doctors to treat heart failure. Recently, several controlled clinical trials have been published that have confirmed its safety and effectiveness. Despite this evidence, conventional cardiologists have shown little interest in using this herbal treatment. Now that the *American Heart Journal*, a conventional cardiology journal, has published a positive study on hawthorn, perhaps more doctors will prescribe this herb for patients with heart failure.

Tauchert M. Efficacy and safety of crataegus extract WS 1442 in comparison with placebo in patients with chronic stable New York Heart Association class-III heart failure. *Am Heart J* 2002;143:910-915.

