

## Sharper Mind™ Product Science – Brain Fitness Nutraceuticals

*{Note: the underlined sections within the text of the abstracts are highlighted for emphasis by us, not the authors}*

### Brain Fitness Nutraceuticals – General Reviews & Abstracts

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Journal-of-Complementary-Medicine. 2006; 5(6): 44-46, 49-50, 90

#### **Boosting cognition.**

Trelour,-N

This article reviews the potential role of nutraceuticals/botanicals in restoring brain energetics and cellular function, and improving memory and executive functions. Natural improvement of cognitive function may involve the following: provision of nutritional support (coenzyme Q10, acetyl-L-carnitine, lipoic acid and vitamin E) for brain energetics and mitochondrial function; enhancement of cell-to-cell communication and neurotransmitter function with phosphatidylserine, acetyl-L-carnitine, brahmi (Bacopa monnieri) or choline/lecithin; provision of antioxidant support (coenzyme Q10, ginkgo (Ginkgo biloba), gotu kola (Centella asiatica)) to reduce free radical damage to neural networks; improvement of vascular function and oxygenation to cerebral tissue with ginkgo and omega-3 fatty acids, particularly docosahexaenoic acid; and balancing of sex hormone ratios with phytoestrogens, dehydroepiandrosterone or biologically identical hormones. The influence of Panax quinquefolius, P. ginseng, Melissa officinalis, Salvia lavandulifolia, huperzine and diet on the enhancement of memory function and learning, as well as the brain restoration activities (physical activity, stress management and intellectually-stimulating activities) are discussed.

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Drugs-Aging. 2003; 20(13): 981-98

#### **Complementary and alternative medicines in the treatment of dementia: an evidence-based review.**

Diamond,B; Johnson,S; Torsney,K; Morodan,J; Prokop,B; Davidek,D; Kramer,P

Alternative medicines may have potential beneficial results in treating certain forms of dementia and related symptoms, as well as slowing disease progression. Alternative medicines may ameliorate disturbances in cognition, mood, sleep and activities of daily living. Primary mechanisms of action include modifications in

neurotransmitter synthesis, inhibition of neurotransmitter reuptake and enzyme-induced neurotransmitter breakdown, antioxidant and anti-platelet activity, enhanced blood flow and glucose metabolism. Adverse events can include cardiovascular, gastrointestinal, mood, autonomic and dermatologic effects. However, adverse events, when reported, represent a small percentage of treated groups and direct links between adverse events and alternative therapies are tenuous. Many studies of alternative medicines in dementia are inconclusive and characterised by methodological deficiencies such as small sample sizes and inadequate controls. If alternative medicines can be shown to be efficacious using more rigorous experimental designs, both consumers and clinicians could avail themselves of a wider range of pharmacological substances that may offer the advantage of being better tolerated and exhibiting safer therapeutic margins than some allopathic medicines. While a number of complementary interventions have shown both strengths and weaknesses, [huperzine A](#), levacecarnine and [EGB 761](#), based on the overall quality of the studies, identified mechanisms of activity and safety profiles merit further examination in controlled clinical outcome studies.

(3)

Alternative Medicine Review, 1999 Jun;4(3):144-61

### **A review of nutrients and botanicals in the integrative management of cognitive dysfunction.**

**Kidd PM.**

University of California, Berkeley, California, USA

Dementias and other severe cognitive dysfunction states pose a daunting challenge to existing medical management strategies. An integrative, early intervention approach seems warranted. Whereas, allopathic treatment options are highly limited, nutritional and botanical therapies are available which have proven degrees of efficacy and generally favorable benefit-to-risk profiles. This review covers five such therapies: phosphatidylserine (PS), acetyl-L-carnitine (ALC), vinpocetine, Ginkgo biloba extract (GbE), and Bacopa monniera (Bacopa). PS is a phospholipid enriched in the brain, validated through double-blind trials for improving memory, learning, concentration, word recall, and mood in middle-aged and elderly subjects with dementia or age-related cognitive decline. PS has an excellent benefit-to-risk profile. ALC is an energizer and metabolic cofactor which also benefits various cognitive functions in the middle-aged and elderly, but with a slightly less favorable benefit-to-risk profile. Vinpocetine, found in the lesser periwinkle Vinca minor, is an excellent vasodilator and cerebral metabolic enhancer with proven benefits for vascular-based cognitive dysfunction. Two meta-analyses of GbE demonstrate the best preparations offer limited benefits for

vascular insufficiencies and even more limited benefits for Alzheimer's, while "commodity" GbE products offer little benefit, if any at all. GbE (and probably also vinpocetine) is incompatible with blood-thinning drugs. Bacopa is an Ayurvedic botanical with apparent anti-anxiety, anti-fatigue, and memory-strengthening effects. These five substances offer interesting contributions to a personalized approach for restoring cognitive function, perhaps eventually in conjunction with the judicious application of growth factors.

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