

What is brain health?

Perhaps one of the most distressing facts about aging is the fear we all have that our mental faculties will slip away from us. The scientific term is ‘ age-related cognitive decline’ and a great deal of research has gone into trying to identify what the precipitating factors might be. The term cognitive decline refers to noticeable changes in our ability to think, concentrate, formulate ideas, reason and remember. There are both physical and psychosocial factors that contribute to the health of our brain. For instance, researchers have found that conditions such as insulin resistance, chronic inflammation and the metabolic syndrome – a group of physiologic changes that lead to the development of cardiovascular disease- are associated with an increased risk of cognitive decline in older adults [1]. Psychosocial factors such as negative emotions, chronic stress and early child adversity have also been found to be predictors of problems with memory and cognitive function later in life [2].

Can supplements help with cognitive decline?

Over the years, a number of supplements have been touted as helping to improve memory, slow its decline and even reverse age-related decline in cognitive function. Some research suggests that there may be enough information about the benefits of certain nutrients to warrant more studies [3, 4]. Published reviews of randomized controlled trials (RCTs), however, have found the benefits of supplements on cognitive function to be inconsistent, supporting the need for additional research.

Ginkgo biloba

Ginkgo biloba is an extract from the leaves of the maidenhair tree Ginkgo Biloba. It is a traditional Chinese medicine that has been used for the treatment of many disorders. Increasing blood supply, decreasing blood viscosity and reducing free oxygen radicals are thought to be among its mechanisms of action. In healthy volunteers with no evidence of memory impairment, one study reported that participants receiving ginkgo and ginseng showed a significant improvement on memory tests after just 4 weeks of treatment compared to a group receiving placebo [5]. However, nine out of thirty six randomized

double blind controlled trials (RCTs) reviewed in 2009 showed inconsistent results regarding the benefits of Ginkgo biloba on cognition, mood and depression [6]. Only one out of four recent trials showed a clinically significant benefit of treatment with Ginkgo biloba. The authors concluded that, to date, though Ginkgo biloba appears to be safe, the data regarding its benefits on cognitive impairment and dementia are inconclusive.

Acetyl- L- Carnitine (ALC)

ALC is an amino acid that is involved in cellular energy production, maintenance of neurons and repair of damage. Most studies on ALC have investigated its effects on cognitive function in patients with Alzheimer's disease where there is evidence that ALC might be beneficial. The results, however, have been mixed across a variety of tests [7].

Vinpocetine

Vinpocetine is derived from vincamine extracted from the periwinkle plant. It increases blood circulation and metabolism in the brain. In two controlled studies in older adults with memory problems, those given vinpocetine showed significant improvement in tests measuring concentration, attention and memory [8, 9], though improvement in memory was not seen in a group of patients with Alzheimers disease [10]. A review of RCTs evaluating the effects of vinpocetine on cognitive function reported that doses of 30 and 60 mg per day were associated with significant improvement when compared to placebo, though few patients were followed beyond 6 months [11]. There were few adverse effects reported and the authors concluded that additional, larger scale studies needed to be carried out.

Take home message

A number of studies have demonstrated beneficial effects of ALC, vinpocetine and Ginkgo biloba on aspects of cognitive function in different population though systemic reviews of the literature suggest that more studies are needed.

References

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