

Ginkgo biloba; an effective medicinal plant on neurological disorders

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Core tip

Ginkgo tree is dioecious and native to China and it is one kind of living fossil. *Ginkgo* is valuable medicinal plant that it has been used for various medicinal purposes. Many of the therapeutic effects of *Ginkgo* is on psychiatric system so we can produce natural medicines affecting the nervous system.

Medicinal plants also used to treatment of neurological disorders. Positive effects of *Ginkgo biloba* plant have been reported on Alzheimer disease, memory enhancement, dementia of vascular origin, cognitive disorders and its anti-oxidative effects in combination with other drugs which enhance their effects or decrease their psychiatric side effects (1-3). For the first time *ginkgo* is used to prevent or treating memory problems in the United States. *Ginkgo biloba* can be used as reinforcing antidepressants agent and a neuroprotective drug in brain injuries (4). This plant modifies the cerebral blood flow and may help to reduce fatigue and inattention contribute hyperactivity (5). Another studies showed its effect on several different neurotransmitter systems of central nervous system (6,7). *Ginkgo biloba* has anti-anxiety and mild antidepressant effects due to reversible inhibition of two MAOA and MAOB enzymes (8). *Ginkgo biloba* extract have antioxidant, anti-inflammatory and neuroprotective effects due to flavonoids and terpenoids presence. *Ginkgo biloba* has a positive effect on cognitive and neurological function by vascular flow regulation and platelet-activating antagonism factors that protects the brain from ischemic injuries (4). Alkaloid ketones, amino acids, cyanogenic glycosides and phenols are abundant in this plant extract that are active ingredients responsible for its therapeutic effects (4). *Ginkgo biloba* show prevention effects on psychosis, anxiety, schizophrenia and depression. It stimulates the cerebral blood circulation and improves problems caused by the failure of blood circulation in the brain include anxiety,

stress, low memory, hearing problems, low concentration, thinking, social behavior and dementia in Alzheimer disease (4).

Authors' contribution

All authors contributed equally to the manuscript.

Conflicts of interest

The authors declared no competing interests.

Ethical considerations

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