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Nootropic Plants: A Review: Part III

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Abstract

The present article is the 3rd in the series of Nootropic Plants: A Review. In this article the nootropic role of 7 plants is discussed. The data was collected from various published sources and compiled.

1. Canscora decusata (Gentianaceae)

In Ayurveda this plant is used for treating insanity, epilepsy, nervine debility, pain, skin diseases, ulcer, worms, abdominal disorders and general debility. Sethia et al, 2012 have reported the cognition boosting role of C. decussata. Rehman et al, 2019 have shown that the presence of mangiferin in C. decussata shows its congnitive and memory enhancing role.

2. Gmelina arborea (Gambhari)

Gmelina arborea, Gambhari, is used in Ayurvedic medicine to improve digestion, strengthen memory, to overcome giddiness and to treat fever, thirst, emaciation, heart diseases and nervous disorders. It has been reported to have anticonvulsant and antioxidant effects asa well as neurite outgrowth promotive activity. Priya and Kalaiselvi, 2021 have reviewed the pharmacology, pharmacognosy and phytochemistry of G. arborea. Kubo et al, 2023 have shown the neurite outgrowth promoting activity of G. arborea in NGF-mediated PC12 cells.

3. Terminalia chebula (Haritaki)

Its decoction is used as gargle in oral ulcers, sore throat. Its powder is a good astringent dentifrice in loose gums, bleeding and ulceration in gums. It is good to increase appetite, digestive aid, liver stimulant, stomachic, gastrointestinal prokinetic agent, and mild laxative. T. chebula is considered to possess the ability to promote memory, intellect and to prolong life. It is also believed to improve eyesight and has the ability to delay aging. Its decoction is used as gargle in oral ulcers, sore throat. Its powder is a good astringent dentifrice in loose gums, bleeding and ulceration in gums. It is good to increase appetite, digestive aid, liver stimulant, stomachic, gastrointestinal prokinetic agent, and mild laxative. It is suggested that one ripe fruit should be eaten every morning to achieve the listed effects. The seed extracts is known to have anti-oxidative, anti-Alzheimer's, anxiolytic, antiamnesic, antiamyloidogenic, anti-inflammatory roles. Bulbul et al, 2022 have reviewed the diverse pharmacological perspectives of T. chebula. The findings of Zeng et al, 2022 suggest that TREs may exert potent neuroprotective effect via activation of both ERK and Nrf2 pathways, thus providing a basis for its potential use for ameliorating memory deficits induced by METH.

4. Cynodon dactylon (Burmuda grass) (Doorva)

Cynodon dactylon is a perennial grass that is commonly used as a laxative, expectorant, analgesic, etc. It is also used for the treatment of dropsy, syphilis and diabetes. Garg and Paliwal, 2011, have evaluated the CNS activities of this plant. It has neuroprotective, antioxidant, neuro-modulating, radiation protective effects. Poojary et al, 2020 have assessed the neuromodullatory role of C. dactylon on gamma irradiated mice brain. Dubey et al, 2022 have reviewed the positive role of Cyodon dactylon on epilepsy.

5. Camellia sinensis (Green Tea)

Green tea is known to exhibit antidepressant, anti-neurodegenerative (e.g., anti-Parkinson and anti-Alzheimer), as well as neuroprotective effects due to the presence of Catechins in it. Akbarialiabad et al, 2021 have discussed the promising nerurological benefits of green tea. Zhang et al, 2022 have reported the improvement of cognitive functions in Chinese middle aged and elderly people by the treatment of Green tea. Afzal et al, 2022 have also reported the attenuating role of green tea catechin on neurodegenerative disease.

6. Vaccinium virgatum (Rabbit eye blue berry)

They may help lower blood pressure, prevent heart disease, improve memory, aid in exercise recovery, and more. Blueberries are sweet, nutritious and wildly popular. **Often labelled a "superfood," they are low in calories and incredibly good for you**. The neuroprotective effects of berry fruits on neurodegenerative diseases are related to phytochemicals such as anthocyanin, caffeic acid, catechin, quercetin, kaempferol and tannin. It has the potential of improving the cognitive functions of mice due to its antioxidant role and acetylcholinestearase modulative functions. Tran and Tran, 2021 have shown the supplementation of blue berry helps in neuronal health. Samani et al, 2023 have reported that neuroprotection by blue berries through their inhibition of cholinesterase, tyrosinase, cyclooxygenase-2.

7. Orange juice (Citrus × sinensis)

Orange juice (OJ) contains an array of potent antioxidants including flavonoids (hesperetin and naringenin predominantly as glycosides), carotenoids (xanthophylls, cryptoxanthins, carotenes), and vitamin C in addition to other beneficial phytochemicals, such as folate. Hesperetin has anti Alzheimer's, anti-choliesterase, anti-inflammatory, and antioxidative functions. Evans et al, 2022 have also shown the neuroprotective effect of Hesperetin present in Citrus fruirs. Sanchez-Marinez et al, 2022 have shown the neuroprotective role of orange juice by products.

CONCLUSION

The above list of 7 plants which are mostly used as neuroprotective and neuroregenarative plants in Ayurveda and Sidhha medicinal practices. This is the 3rd list of nootropic plants and the series continues in subsequent issues.

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