

Efficacy and Safety of Ashwagandha (*Withania Somnifera* (L.) Dunal) Root Extract in Improving Memory and Cognitive Functions

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Abstract

Objectives: Cognitive decline is often associated with the aging process. Ashwagandha (*Withania somnifera* (L.) Dunal) has long been used in the traditional Ayurvedic system of medicine to enhance memory and improve cognition.

Aim: This pilot study was designed to evaluate the efficacy and safety of ashwagandha (*Withania somnifera* (L.) Dunal) in improving memory and cognitive functioning in adults with mild cognitive impairment (MCI).

Methods: A prospective, randomized, double-blind, placebo-controlled study was conducted in 50 adults. Subjects were treated with either ashwagandha-root extract (300 mg twice daily) or placebo for eight weeks.

Results: After eight weeks of study, the ashwagandha treatment group demonstrated significant improvements compared with the placebo group in both immediate and general memory, as evidenced by Wechsler Memory Scale III subtest scores for logical memory I ($p = 0.007$), verbal paired associates I ($p = 0.042$), faces I ($p = 0.020$), family pictures I ($p = 0.006$), logical memory II ($p = 0.006$), verbal paired associates II ($p = 0.031$), faces II ($p = 0.014$), and family pictures II ($p = 0.006$). The treatment group also demonstrated significantly greater improvement in executive function, sustained attention, and information-processing speed as indicated by scores on the Eriksen Flanker task ($p = 0.002$), Wisconsin Card Sort test ($p = 0.014$), Trail-Making test part A ($p = 0.006$), and the Mackworth Clock test ($p = 0.009$).

Conclusions: Ashwagandha may be effective in enhancing both immediate and general memory in people with MCI as well as improving executive function, attention, and information processing speed.

Keywords: *Withania somnifera* (L.) Dunal; ashwagandha; cognition; efficacy; memory; safety.

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