

Acetylcholinesterase inhibitory activity of fixed and essential oil of *Laurus nobilis* L. fruit

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Abstract

Background and Purpose: Alzheimer's disease (AD) is a neurodegenerative disorder which is an ordinary type of dementia in the elderly. It impairs memory and cognitive ability. Different kinds of treatment have been presented to cure AD or reduce its progression, most of which are based on inhibition of acetylcholinesterase enzyme. According to traditional Persian medicine, the bay laurel fruit has been applied for different medical purposes such as improving mind and memory function. The aim of the presented study was to evaluate the acetylcholinesterase inhibitory activity of fixed and essential oil of *Laurus nobilis* L. fruit.

Methods and Materials: Dried fruit of *Laurus nobilis* L. was subjected to hydro distillation for obtaining the essential oil, then the fixed oil of fruit was extracted by a Soxhlet apparatus (n-hexane as a solvent). Ellman method was employed to evaluate the acetylcholinesterase inhibitory activity of bay laurel fruit.

Results: Both fixed and essential oil exhibited acetylcholinesterase inhibitory activity which the percentage of inhibition for fixed oil (1.35 mg.mL⁻¹) and essential oil (1.8 µg.mL⁻¹) was 34.33 ±2.4 and 50, respectively.

Conclusion: According to the results obtained from the present study, the effect of bay laurel on mind and memory can be relevant to its acetylcholinesterase inhibitory activity.

Keywords: Alzheimer's disease, Acetylcholinesterase, *Laurus nobilis* L.

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