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## From popular medicine knowledge to evidence ethnopharmacology efficacy can nature give us the tools to fight human neurodegenerative diseases?

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From the night of time, Man has always tried to relieve his suffering by turning his attention to Nature and seeking remedies to cure the ills of his body. In recent decades, phytotherapy has been re-evaluated, not only because of the growing number of patients who use it, but, above, all, since numerous preclinical and clinical researches have been able to demonstrate and confirm the pharmacological bases of plant-based treatment, since acquired in the past from traditional medicine in empirical way. Today phytotherapy has become a medical discipline in all aspects, because it applies the method and the rigor of scientific evidence. Here it is addressed the history, current as well as the future perspective of AD treatment by Ethnomedicine, taking into consideration the probable causes and preventive mechanisms together with the treatment methods. Alzheimer's disease (AD) is an irreversible, slowly progressive neurodegenerative disease of the brain, and it is characterized by memory deficits and progressive cognitive impairment, accompanied by neuropsychiatric changes. It has become the fourth leading cause of death in developed countries. The main symptoms of AD are primarily caused by a cholinergic dysfunction due to degeneration of basal cholinergic forebrain (BCF). In particular, consistent neuronal loss into the *nucleus basalis of Meynert* (NBM), which produces a reduced cholinergic input to target areas such as cerebral cortex and hippocampus. Pathogenic cause of AD remains incompletely understood. So, currently acetylcholinesterase inhibitors (AChEIs), which decrease the breakdown of the neurotransmitter, has been the main symptomatic therapy for mild to moderate Alzheimer's patients, approved by FDA. To date, AChEIs are considered the main pharmacological strategy in the palliative approach in the therapy of AD; they undoubtedly, temporarily restore the disrupted cholinergic transmission in brain. Consequently, the search for novel compounds is necessary. In recent times, several chemical and pharmacological studies have searched for new drugs, in an attempt to extract and isolate from plants novel compound or better understand the effects of those already known, in an effort to fight this terrible disease.

**Conclusions:** AD is a multi-causal and multi-factorial progressive neurodegenerative disease with complicated pathogenesis. Thus it is likely that multiple drugs or drugs with poly-pharmacological activities will be the best therapeutic approaches to address the diverse pathological aspects of the disease. Anti-cholinesterasic activities, anti-A $\beta$  aggregation and anti-A $\beta$ -induced oxidative injury such as anti-NMDA-induced toxicity and anti-inflammatory activity showed by many herbal compounds, encourage their use as potential disease-modifying drugs for neurodegenerative disorders, opening to new insight and future perspectives for a multi-functional phytomedicine. From this point of view, we have to overcome our way to think Ethnomedicine and official medicine opposed each other, or that orthodox medicine is better than traditional medicine, as well as phytotherapeutic remedies as an alternative to synthetic drugs. The two pharmacological approaches are often, and it should always be, complementary; that is, to be able to complement each other. Science and consciousness of physician will depend on the correct integration of. In conclusion, Evidence based pharmacology (EBP) is the conscientious, explicit, judicious and reasonable use of modern, best pharmacotherapeutic evidence in making decisions about the care of individual patients. EBP must integrate clinical experience and patient values with the best available research information.

**Keywords:** Alzheimer's disease, Neurodegeneration, Multi-target drus, Disease-modifying therapy, Phytotherapy, Preventive Mechanism, Treatment Methods.

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