

ABSTRACT

Alzheimer's disease (AD) is the most common form of dementia affecting the elderly population, characterized by progressive loss of cognitive function, behavioral disturbances, and daily living difficulties. It is estimated by the year 2050 the number of individuals living with AD may triple. Although there is no cure for AD, different therapeutic strategies involving herbal medicines are being used to help manage the clinical manifestations of the disease. In this study, we used a systematic review to comprehensively assess the neuroprotective properties of herbal medicines in animal models of AD. We conducted a secondary analysis of 67 research journals that were obtained from 2016-2020 that were found in various electronic databases, such as PubMed and Google Scholar. The majority of experimental studies reported that herbal medicines they used to exert a neuroprotective effect than control groups against AD neurodegeneration, shown by the positive effect on behavior tests (58 studies) and improvement on a molecular level (55 studies). Accumulated evidence suggests that herbal medicines may potentially treat AD through several neuroprotective properties, such as anti-oxidant, AChES inhibitor, anti-apoptotic, anti-inflammatory, anti-amyloidogenic, neurotrophic modulator. Some herbal medicine may improve brain function, but scientific evidence to prove this is limited due to only a few databases involved. A recent study suggests that the neuroprotective properties from herbal medicines in animal models of AD model may contribute to clinical benefits for human AD patients.

Keywords: Alzheimer's disease, neuroprotective, herbal medicines, animal models, systematic review.