# Management of Multiple sclerosis complications with herbal medicines in clinic: a review

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**Abstract**

**Introduction:** Multiple sclerosis (MS) is an inflammatory chronic neurological disease, which affects young and middle aged adults, leading to demyelination, neuronal and axonal damage and finally atrophy of the brain, the spinal cord, and the retina in most patients. MS can cause sensory, motor and visual defects, lack of coordination and cognitive disabilities resulting in quality of life reduction. The aim of the present article was to review the clinical evidence related to medicinal plants in the treatment of symptoms associated with MS patients.

**Methods and Results:** Electronic databases, including the Pubmed, Scopus and Cochrane Library were searched for clinical studies that evaluated the positive effects of medicinal plants in MS. The searched keywords were 'multiple sclerosis' in the title/abstract, and 'plant', 'herb', and 'phytochemical' in the whole text. To ensure a better comparison between trials, the Jadad score was used to assess the methodological quality of trials. Findings of the study revealed significant effects of different medicinal plants on MS. This plants are including *Andrographis paniculata* (King of bitters), *Boswellia papyrifera* (Bitter frankincense), Cannabis *sativa* (Hemp), *Ginkgo biloba* (Ginkgo), *Aloysia citrodora* (Lemon verbena), *Ruta graveolens* (Rue) and *Panax ginseng* (Korean ginseng). *C. sativa* had the highest level of clinical evidence, supporting its efficacy in MS symptoms. The main complications of MS in which natural drugs were effective include spasticity, fatigue, scotoma, incontinence, urinary urgency, nocturia, memory performance, functional performance, and tremor.

**Conclusions:** Further well-designed human studies with a large sample size and longer follow-up period are recommended to confirm the role of medicinal plants and their metabolites in the management of MS**.**

**Key words:** plants, Multiple sclerosis, herbal medicine, MS