

Title: Natural products in the management of neurodegenerative diseases

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Abstract: Neurodegenerative diseases represent one of the utmost imperative well-being health issues and apprehensions due to their escalating incidence of mortality. Natural derivatives are more efficacious in various preclinical models of neurodegenerative illnesses. These natural compounds include phytoconstituents in herbs, vegetables, fruits, nuts, and marine and freshwater flora, with remarkable efficacy in mitigating neurodegeneration and enhancing cognitive abilities in preclinical models. According to the latest research, the therapeutic activity of natural substances can be increased by adding phytoconstituents in nanocarriers such as nanoparticles, nanogels, and nanostructured lipid carriers. They can enhance the stability and specificity of the bioactive compounds to a more considerable extent. Nanotechnology can also provide targeting, enhancing their specificity to the respective site of action. In light of these findings, this article discusses the biological and therapeutic potential of natural products and their bioactive derivatives to exert neuroprotective effects and some clinical studies assessing their translational potential to treat neurodegenerative disorders.

Keywords: Natural products, Neurodegenerative diseases, Neuroinflammation, Oxidative stress, Nanotechnology

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