

Use of Anti-aging Herbal Medicine, Lycium barbarum, Against Aging-associated Diseases. What Do We Know So Far?

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Lycium barbarum (Gouqizi, Fructus Lycii, Wolfberry) is well known for nourishing the liver, and in turn, improving the eyesight. However, many people have forgotten its anti-aging properties. Valuable components of L. barbarum are not limited to its colored components containing zeaxanthin and carotene, but include the polysaccharides and small molecules such as betaine, cerebroside, beta-sitosterol, p-coumaric, and various vitamins. Despite the fact that L. barbarum has been used for centuries, its beneficial effects to our bodies have not been comprehensively studied with modern technology to unravel its therapeutic effects at the biochemical level. Recently, our laboratory has demonstrated its neuroprotective effects to counter neuronal loss in neurodegenerative diseases. Polysaccharides extracted from L. barbarum can protect neurons against beta-amyloid peptide toxicity in neuronal cell cultures, and retinal ganglion cells in an experimental model of glaucoma. We have even isolated the active component of polysaccharide which can attenuate stress kinases and pro-apoptotic signaling pathways. We have accumulated scientific evidence for its anti-aging effects that should be highlighted for modern preventive medicine. This review is to provide background information and a new direction of study for the anti-aging properties of L. barbarum. We hope that new findings for L. barbarum will pave a new avenue for the use of Chinese medicine in modern evidence-based medicine.

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