

RESEARCH ARTICLE

Biochemical evidence for anti-autistic potential of *Asparagus racemosus*

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SUMMARY

Autism is a serious developmental disorder observed in early childhood that impairs the ability to communicate and interact socially. It is also characterized by a tendency to engage in repetitive behaviours, apathy and cognitive decline. *Asparagus racemosus* commonly known as *Shatavari* has been found to possess neuro-protective, nootropic, anti-depressant and anti-anxiety activities. In the light of above, a project was designed to study involvement of acetylcholine, catecholamines and oxidative stress in manifestation of autistic symptoms induced by valproic-acid in rat pups and their modulation by *Asparagus racemosus* (Shatavari). A single intraperitoneal injection of sodium valproate (500 mg/kg) was given on 13th day of gestation to pregnant Wistar female rats for inducing autism in rat pups. *Asparagus racemosus* root extract (100 and 200 mg/kg, p.o.) significantly reduced valproic acid- induced oxidative stress as indicated by decrease in plasma nitrite levels, increase in brain GSH levels and enhancement of catalase activity in brains of autistic rat pups. Furthermore, *Asparagus racemosus* (Shatavari) diminished acetylcholinesterase and monoamine oxidase-A enzyme activity in autistic pups. Shatavari restored valproic acid-induced biochemical deficits of rat pups in the present study. The present research findings, justify the status of Shatavari as a powerful medicinal herb for improving women's health. Autism spectrum disorder which has its origin in abnormal fetal development probably can be best treated by the use of this herb.

Key Words : Autism, Shatavari, Oxidative stress, AchE, MAO-A, Women-health

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