

16<sup>th</sup> World Congress on

# Psychiatry and Psychological Syndromes

April 24-25, 2017 Las Vegas, USA

## Anti-depressive effects of natural polyphenols: Resveratrol and Curcumin

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The present research aimed to investigate the mechanisms underlying the antidepressant-like effects of curcumin and resveratrol. Depression is a neuropsychiatric disease associated with wide disruptions in neuronal plasticity and increased basal ganglia glutamate. Curcumin, a natural polyphenolic compound of *curcuma longa* is anti-inflammatory, antioxidant, neuroprotective and antimicrobial. Curcumin decreases inflammatory cytokines interleukin 1 beta and tumor necrosis factor alpha. Curcumin has a neuroprotective effect against oxidative glutamate toxicity by inhibiting MAP kinase signaling and influencing cell-cycle regulation. The potent antidepressant property of curcumin might be attributed to its improvement of AC-cAMP pathway as well as CREB via suppressing central 5-HT(1A/1B/7). Resveratrol is anti-inflammatory, antioxidant and protector of astrocytes and modulate glial functions including glutamate uptake and glutathione. Resveratrol play a significant role between the signals pathways of NFκB, HO-1 and MAPK, p38, ERK. Some research suggests curcumin and resveratrol have neuroprotective attributes against glutamate excitotoxicity because increases the expression of sirtuin 1 (SIRT1) mediated deacetylation of PGC alpha, in addition, resveratrol down-regulated the levels of p65 and phospho-p38 MAPK.

### Biography

Ellie Wright has obtained her Bachelor's degree at Arizona State University in 2008, Master's degree (ASU) and Graduate Certificate in Geriatric and Gerontology from Arizona University in 2010 and Doctoral degree from EGW Research Institute LLC, USA in 2015. She is passionate in the field of natural medicine.

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