

Design and development of a polyherbal chewable tablet for anxiety

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Anxiety is a normal emotional behavior, when it is severe and chronic however it becomes pathological and perceived to be uncontrollable or unavoidable. Benzodiazepines are commonly prescribed in anxiety condition and its long term use may lead to impaired alertness and concentration besides lack of coordination, drowsiness, dizziness, sedation and ultimately leads to addiction and withdrawal symptoms. Herbs form a major part in modulating the neurotransmitters. Hence the spray dried hydroalcoholic extracts of roots of *Withania somnifera* and *Hemidesmus indicus*, fruits of *Aegle marmelos* and *Emblica officinalis* and the lyophilized juice of fresh aerial parts of *Ocimum sanctum* were subjected to bio guided combination to arrive at the two effective combination possessing anti oxidant property. The selected combination was subjected to safety using sub acute toxicity study (OECD 403) and efficacy using maze method. The most effective and safe polyherbal combination was selected to develop a suitable oral dosage form as chewable tablet and was standardized for its active principles. The chewable tablets were subjected to anti anxiety activity by chronic method (28 days treatment per oral). The endogenous neurotransmitters viz. glutamate and GABA_A were measured in the brain homogenate using HPTLC method besides anti oxidant activity. Immuno histochemistry of the brain tissue of the treated and control rats showed a moderate GABA_A expression i.e. 25-50% in chewable tablet and standard drug treated rats. Histo pathology of the brain tissue also revealed normal neuronal architecture of cortex in the polyherbal chewable treated rats. Finally the chronic toxicity of the chewable tablet was carried and found to be safe even after 90 days of treatment thereby proving the safety and efficacy of the formulation.