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FENNEL: A natural therapy to cure the anti- obsessive compulsive activityin mice

Arzoo* AndMilindParle

Pharmacology Division, Department of Pharm. Sciences,Guru Jambheshwar University of Science and Technology('A' Grade NAAC accredited, State Govt. University) Hisar -125001 (Haryana), India

Abstract: Fennel (*Foeniculumvulgare*) is flowering plant species in the carrot family of Apiacae. It is a small, erect and aromatic herb full of volatile compounds, flavonoids, phenolic compounds, fatty acids, and amino acids. Fennel contains volatile compounds, flavonoids, phenolic compounds, fatty acids, and amino acids. There is no documented report on utility of Fennel in psychiatric disorders in literature. Therefore, this study was undertaken to explore anti-obsessive compulsive potential of Fennel using flickering-light induced obsessive-compulsive behaviour model developed in our laboratory (Patent No. 3087/DEL/2012) and marble-burying behaviour model. Fennel, when administered orally to mice in two different concentrations of 500mg/kg and 1000mg/kg for 21 days, significantly reduced gnawing behaviour and marble-burying behaviour of mice.Interestingly in our biochemical estimations, both, brain serotoninand GABA level weresignificantly increased by fennel. The anti-Obsessive compulsive activity of fennel may be due to the presence of anti-oxidant as well as Tryptophan, which is an important precursor of serotonin in the serotonergicneurons thereby enhancing the biosynthesis of serotonin to facilitate the anti- obsessive compulsive activity. These findings taken together reveal anti-obsessive compulsive potential of fennel.

Keywords:*Foeniculumvulgare*, fennel, anti-oxidant, obsessive compulsive disorder, fluoxetine.

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