

Effect of methanolic extract of *Lagenaria siceraria* (Molina) Standley fruits on marble-burying behavior in mice: Implications for obsessive-compulsive disorder

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ABSTRACT

Context Obsessive-compulsive disorder (OCD) is the fourth most common mental disorder and is diagnosed nearly as often as asthma and diabetes mellitus. Over the last decade, the inhibition of burying of glass marbles by mice has been used as an index of anti-OCD drug action in the so-called marble-burying test. *Lagenaria siceraria* (Molina) Standley (LS), commonly known as "bottle gourd" (English), possesses several medicinal properties; little is known about its action as a nerve tonic. Objective The purpose of this study was to characterize the anti-OCD (anti-compulsive) activity of the methanolic extract of the fruits of *L. siceraria* (Molina) Standley (LS) using the marble-burying behavior in mice. Materials and Methods The experiment was conducted in specific animal models of Swiss albino mice to evaluate marble-burying behavior. Results and Conclusions Intraperitoneal administration of 25 and 50 mg/kg of LS extract significantly ($P < 0.001$) decreased the total number of buried marbles. The effect was comparable to that of the fluoxetine (10 mg/kg, i.p.). Fluoxetine and LS fruit extract do not produce any overt motor dysfunction. Preliminary phytochemical screening of the methanolic extract of LS showed the presence of flavonoids, saponins, sterols, proteins, tannins and carbohydrates. The results of the study for the first time show that the plant possesses anti-compulsive (anti-OCD) activity, confirming the traditional claims. Future research should focus on the identification and the mechanism of action of the constituents from this plant.

KEYWORDS

Fluoxetine . *Lagenaria siceraria* . marble-burying behavior . obsessive-compulsive disorder . preliminary phytochemical screening

REFERENCES