

ABSTRACT

Evaluation Of Antitussive Activity and Physical Stability Of Ethanolic Extract Syrup Of Bilimbi (*Averrhoa bilimbi* L) Fruit

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The aim of this study was to evaluate the antitussive activity and physical stability of the ethanolic extract syrup of Bilimbi (*Averrhoa bilimbi* L.) fruit. The antitussive activity was studied using 25 ammonium hydroxide induced male mice (BALB/c strain) which were divided into 5 groups. Group I and group II were subsequently administered with 0.2ml/kgBW of Codein Phosphate (30mg/kg) as positive control, and solution mixture of propyleneglycol, sucrose, and aquadest as negative control, group III, IV, and V were administered with 0.32ml/kgBW of ethanolic extract syrup orally, 60 minutes prior to placed into 1000 ml of chamber and exposed with 0.3 ml of 25% ammonium hydroxide solution for 45 seconds. The cough frequency was observed and measured for 5 minutes without removing the mice from the chamber. The result of antitussive test showed that the ethanolic extract syrup of Bilimbi fruit significantly inhibited the frequency of cough ($p < 0.05$) as the doses were increased. Ethanolic extract syrup of Bilimbi fruit at doses 10%, 15%, and 20% showed percentage of cough inhibition 24.13%; 39.36%; 39.36% respectively after 60 minutes of drug administration. The physical stability was evaluated by the physicochemical parameters such as physical appearance, pH, density, and homogeneity during 0 hr, 24 hr, 48 hr, and 72 hr at the temperature of 5°C, 28°C, and 47°C. The result of physical stability test showed that there were no changes of the physicochemical parameters during 0 hr, 24 hr, 48 hr, and 72 hr at the temperature of 5°C, 28°C, and 47°C. In conclusion this study provided pharmacological evidence in supporting of empirical used of the stable ethanolic extract syrup of Bilimbi (*Averrhoa bilimbi* L.) fruit as an antitussive.

Keywords : *Averrhoa bilimbi*, cough, antitussive, stability, physicochemical parameter