ABSTRACT

THE ANTITUSSIVE ACTIVITY OF 70% ETHANOLIC EXTRACT OF CITRUS LEAVES (*Citrus aurantifolia*) IN SYRUP PREPARATION

Solvy Nur Al Adilla

Cough is a reflex body defence for removing allergen from the respiratory track. However, prolonged and persistent cough might be interrupting respiratory process and be harmful for patient. One type of cough that commonly experienced by the patient is non productive cough. Antitussive is a type of cough medicine that can reduce the frequency of non productive cough. It is known that the use of modern medicine as antitussive has lots of side effects. Therefore, herbal medicine is preferable nowadays because it is considered safer than modern one.

The purpose of this research was to discover the antitussive activity of 70% ethanolic extract of citrus leaves (*Citrus aurantifolia*) in syrup preparation using ammonium hydroxide induced mice. The mice were divided into 5 groups. Each group were subsequently administered with 0.2 ml/kg BW of the syrup extract in concentration 200, 400, 600 mg/kg BW, possitive control (codein phosphate with CMC-Na) and negative control (solution mixture of propylenglycol, sucrose, aquadest) orally. After 60 minutes the mice were put into 1000 ml of chamber which was exposed with 0.3 ml of 25% ammonium hydroxide. After 45 seconds the cough frequency of mice was observed for 5 minutes without removing them out of the chamber.

The result showed that 70% ethanolic extract of citrus leaves in syrup preparations was able to decrease the cough frequency in mice with significant reduction of cough frequency ($p < 0.05$) as the doses were increased. The result indicated that dose 3 (600 mg/kg BW) had the highest percentage of respiratory cough inhibition (47.6%) as compared to the dose 1 (13.5%) and dose 2 (35.1%).

In conclusion, 70% ethanolic extract of citrus leaves (*Citrus aurantifolia*) in syrup preparation in concentration 200, 400, 600 mg/kg BW was able to decrease the cough frequency of ammonium hydroxide induced mice.

Keywords: cough, antitussive, *Citrus aurantifolia*, ammonium hydroxide.