

ABSTRACT

AN ANALGESIC ACTIVITY OF 96% ETHANOL EXTRACT AND ETHYL ACETATE FROM SAMBILOTO'S LEAVES (*Andrographis paniculata*)

Irfan Rayi Pamungkas

Andrographis paniculata is a herbaceous type of Acanthaceae family that has been widely used as a traditional medicine in Asian countries. This plant have potential to be an analgesic agent because of its diterpenoid lactone content. Several studies had been conducted to determine the analgesic activity of *A. paniculata*. The ethanolic extract of *A. paniculata* had been known to have an analgesic activity of 34% as compared to diclofenac sodium (Hassan *et al.*, 2013).

The current study is conducted to investigate the analgesic activities of the ethanolic extract and the ethyl acetate (EA) fraction of *A. paniculata* as analgesic agent. The analgesic activity was determined by using writhing test in two months old male swiss albino mice induced with acetic acid. The experimental animals were weighed and randomly divided into 8 groups consisting of 5 mice in each groups. Group 1 (negative control) received 1% Tween-80 in normal saline. Group 2 (positive control) received standard drug diclofenac sodium at 40 mg/kg. Groups 3, 4 and 5 received ethanolic extract at doses of 12.5, 25 and 50 mg andrographolide/kg body weight, respectively. While groups 6, 7 and 8 received ethyl acetate fraction at a doses of 12.5, 25 and 50 mg andrographolide/kg body

weight, respectively. All treatments were administered orally. Thirty minutes after administration of the standard drug and test samples, each mouse was injected with 1% acetic acid at 10 mL/kgBB intraperitoneally. The results were analyzed with ANOVA *one-way* and Post hoc test LSD which showed that the ethanolic extract ($p=0.000$) and the ethyl acetate fraction ($p=0.000$) have significant differences with negative controls ($p < 0.05$). This is indicated by the decrease in the number of strains in the treatment group compared to the negative control. The higher the dose of the extract and fraction given, the lower the frequency of stretching. Both ethanolic extract and ethyl acetate fraction at 50 mg/kgBB had an effect equivalent to diclofenac sodium compared to doses of 12.5 mg and 25 mg

Key words: acetic acid, analgesic, diclofenac sodium, medicinal plant, andrographis.