

ABSTRACT

THE EFFECT OF ETHANOLIC EXTRACT OF *Marsilea crenata* Presl. HERBS AS ANTIUROLITHIATIC IN WHITE RATS

Deka Apriliani Ayu Pralista

Urolithiasis is an abnormalities of kidney that characterized by the appearance of crystal, mainly calcium oxalate in urinary tract. *Marsilea crenata* Presl. is a local plant of Surabaya that is believed empirically as diuretic, which is the one of antiurolithiatic drug mechanism. This study aims to determine the effect of ethanolic extract of *Marsilea crenata* Presl. herbs as antiurolithiatic showed by the formation of calcium oxalate crystals and concentration of oxalate in white rats. Experimental animals were divided into 5 groups consist of negative control (CMC-Na 0,5%), positive control (Cystone® 750 mg/kg BW), group 1 (75 mg/kg BW extract), group 2 (150 mg/kg BW extract), and group 3 (300 mg/kg BW extract). The animals model were induced by 0,75% ethylene glycol and 2% ammonium chloride for 14 days. On the eighth and fifteenth days, 24 hours of animal urine were stored in metabolic enclosure and analyzed. The numbers of calcium oxalate crystals in urine were counted microscopically while oxalate concentration was measured by using spectrophotometer UV-VIS. The result showed reduction of crystal number in positive control and three test groups. Meanwhile, the concentration of oxalate in group 3 and positive control were increased on fifteenth day compare than eighth day. This increase illustrated how much calcium oxalate crystals that were successfully broken down and dissolved in urine. These data indicate that ethanolic extract of *Marsilea crenata* Presl. herbs has potential to be developed as urolithiasis treatment. Further study is needed to find out the toxicity of extract.

Keywords: Antiurolithiatic, ethanolic extract, *Marsilea crenata* Presl., calcium oxalate crystal, oxalate, microscopic, spectrophotometer UV-VIS