

ABSTRAK

DANIEL CHRIESDYAN, W., 2022, UJI AKTIVITAS DIURETIK TABLET EFFERVESCENT EKSTRAK BIJI PEPAYA (*Carica papaya* L.) PADA TIKUS JANTAN GALUR WISTAR, SKRIPSI, PROGRAM STUDI S1 FARMASI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA. Dibimbing oleh Dr. apt. Gunawan Pamudji Widodo, M.Si. dan apt. Drs. Widodo Priyanto, M.M.

Tablet *effervescent* merupakan tablet tidak bersalut umumnya mengandung bahan asam, bahan basa, zat aktif, serta bahan tambahan lainnya. Biji pepaya mengandung alkaloid yang berkhasiat sebagai diuretik. Tujuan penelitian ini adalah memperoleh formula tablet *effervescent* ekstrak biji pepaya (*Carica papaya* L.) yang memenuhi persyaratan kualitas dan mengetahui pengaruh pemberian tablet *effervescent* ekstrak biji pepaya (*Carica papaya* L.) dalam meningkatkan volume urin tikus putih jantan galur wistar (*Rattus norvegicus*) selama 6 jam.

Penelitian ini merupakan penelitian eksperimental menggunakan dua formula dengan kandungan zat aktif 61 mg dan 122 mg. Tablet *effervescent* dibuat dengan granulasi basah dan dicetak dengan bobot rata-rata 1500 mg serta diuji mutu fisiknya. 20 ekor tikus jantan dikelompokkan menjadi empat kelompok. Kelompok I kontrol negatif larutan tablet *effervescent* tanpa ekstrak, kelompok II kontrol positif suspensi furosemide dosis 0,72mg/200gBB tikus, kelompok III larutan tablet *effervescent* ekstrak biji pepaya dosis 1,54mg/200gBB tikus, kelompok IV larutan tablet *effervescent* ekstrak biji pepaya dosis 3,07mg/200gBB tikus. Semua kelompok diberikan loading dose air hangat 4 ml secara oral, 30 menit kemudian dioral dengan sediaan uji masing-masing. Pengukuran volume urin dilakukan setiap 1 jam selama 6 jam.

Hasil penelitian menunjukkan bahwa ekstrak biji pepaya (*Carica papaya* L.) dapat diformulasi menjadi tablet *effervescent* yang memenuhi persyaratan kualitas. Nilai AUC total dan % DD merupakan parameter yang menggambarkan aktivitas diuretik pada kelompok perlakuan. Hasil analisis statistik uji ANOVA kelompok perlakuan III menunjukkan efek diuretik sebanding dengan kelompok kontrol positif dan kelompok perlakuan IV menunjukkan efek diuretik yang lebih baik daripada kelompok kontrol positif dan kelompok perlakuan III.

Kata kunci : formulasi; tablet *effervescent*; ekstrak biji pepaya; diuretik

ABSTRACT

DANIEL CHRIESDYAN, W., 2022, RESEARCH OF DIURETIC ACTIVITY OF EFFERVESCENT TABLETS WITH A PAPAYA SEEDS EXTRACT (*Carica papaya* L.) IN MALE WISTAR RATS, SKRIPSI, PHARMACY BACHELOR PROGRAM STUDY, PHARMACY FACULTY, SETIA BUDI UNIVERSITY, SURAKARTA. Advised by Dr. apt. Gunawan Pamudji Widodo, M.Si. and apt. Drs. Widodo Priyanto, M.M.

Effervescent are uncoated tablets containing acid, base, active and other substances. Papaya seeds contains alkaloids that has diuretic activity. This research is aim to gain formulation of effervescent tablets with a papaya seeds extract (*Carica papaya* L.) that fulfill quality requirements and determine the effect of it in increasing urine voume of white rats (*Rattus norvegicus*) for six hours.

This research experimentally using two formulations with each of them have 61 and 122 milligrams active substances. Effervescent tablets are made by wet granulation method and molded it with average tablets weights were 1500 milligrams. Also, these tablets were tested for physical qualities. In amount of twenty male rats were classified into 4 gorups. The first group was negative control of solution effervescent tablets with no extract. The second group was positive control of furosemide suspension with range of doses in rats were 0,72mg/200gBB. The third group was effervescent tablets solution with a papaya seeds extract range of doses in rats were 1,54mg/200gBB. The fourth group was effervescent tablets with a papaya seeds extract with range of doses in rats were 1,54mg/200gBB. All of the groups orally given loading doses of 4 milliliters warm water and respective test preparations in thirty minutes later. Measurement of urine volume tested in each hour during six hours.

The result of this research shows that papaya seeds extract (*Carica papaya* L.) can be formulated to be effervescent tablets that fulfilled quality requirements. Both AUC values and percentage of DD were parameters that describe how the diuretic activities in the treatmens groups. The result of ANOVA test of the third group shows the diuretic effect is same as the postive control group and the fourth group shows that the effect of the diuretic is better than the first and third groups.

Key words: Formulation; effervescent tablets; papaya seeds extract; diuretic