

ABSTRAK

SYNDY AULIA F., 2023, UJI AKTIVITAS ANTIDEPRESAN FRAKSI *n*-HEKSAN, ETIL ASETAT DAN AIR DARI DAUN SIRSAK (*Annona muricata* L.) PADA MENCIT PUTIH JANTAN (*Mus musculus*) DENGAN METODE *FORCED SWIMMING TEST*, SKRIPSI, PROGRAM STUDI S1 FARMASI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA. Dibimbing oleh Dr. apt. Wiwin Herdwiani, M.Sc. dan apt. Ghani Nurfiana Fadma Sari, M.Farm.

Depresi merupakan gangguan emosional dan jiwa yang terjadi akibat ketidaknormalan kadar monoamine. Daun sirsak (*Annona muricata* L.) berpotensi sebagai antidepresan yang dapat membantu mengatur penggunaan neurotransmitter monoamine pada otak. Tujuan penelitian ini mengetahui pengaruh pemberian ekstrak etanol daun sirsak serta dosis efektif untuk menurunkan *immobility time* (IT) mencit yang diinduksi *forced swim test* (FST).

Ekstraksi serbuk kering dilakukan secara maserasi dengan menggunakan pelarut etanol 96% dikarenakan sifatnya selektif dan universal pada metabolit sekunder. Induksi depresi dilakukan dengan menggunakan metode *forced swim test*, yaitu pengukuran waktu imobilitas dilakukan dengan mengamati aktivitas motorik mencit yang ditempatkan di bejana air. Penelitian menggunakan sampel 30 ekor mencit putih jantan dibagi menjadi 6 kelompok, terdiri dari kontrol negatif (Na CMC 0,5 %), positif (amitriptilin 1,3 mg/kg BB mencit), ekstrak daun sirsak 25 mg/kg BB mencit, fraksi *n*-heksan, fraksi etil asetat, dan fraksi air. Semua kelompok selama 14 hari diinduksi depresi dengan metode *forced swim test* dan diberi perlakuan selama 14 hari berikutnya. Hari ke 15 diukur *immobility time* pada mencit. Data hasil pengukuran *immobility time* dianalisis menggunakan shapiro-wilk untuk mengetahui normalitas data, kemudian dilanjutkan dengan one way anova.

Hasil penelitian menunjukkan hasil pemberian fraksi *n*-heksan, fraksi etil asetat, dan air dari daun sirsak dengan dosis 0,2 mg/kg BB dapat menurunkan waktu imobilitas dengan presentase penurunan sebesar 69,78; 96,4; dan 79,64% pada mencit putih jantan yang diinduksi *forced swim test* (FST). Pada presentase 96,4% fraksi etil asetat dapat memberikan efek antidepresan paling efektif karena mempunyai kemampuan paling tinggi dalam menurunkan waktu imobilitas pada mencit.

Kata Kunci : Depresi, daun sirsak, fraksi

ABSTRACT

SYNDY AULIA F., 2023, TESTING THE ANTIDEPRESSANT ACTIVITY OF N-HEXANE, ETHYL ACETATE AND WATER FRACTION FROM SOURSOP LEAVES (*Annona muricata* L.) ON MALE WHITE RATS (*Mus musculus*) USING THE FORCED SWIMMING TEST METHOD, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY, SURAKARTA. Supervised by Dr. apt. Wiwin Herdwiani, M.Sc. and apt. Ghani Nurfiana Fadma Sari, M.Farm.

Depression is an emotional and mental disorder that occurs due to abnormal monoamine levels. Soursop leaves (*Annona muricata* L.) have potential as an antidepressant which can help regulate the use of monoamine neurotransmitters in the brain. The aim of this research was to determine the effect of administering soursop leaf ethanol extract and the effective dose in reducing the immobility time (IT) of mice induced by the force swim test (FST).

Dry powder extraction was carried out by maceration using 96% ethanol solvent because it is selective and universal for secondary metabolites. Depression induction was carried out using the force swim test method, namely measuring the immobility time by observing the motor activity of mice placed in a water vessel. The research used samples of 30 male white rats which were divided into 6 groups, consisting of negative control (Na CMC 0.5%), positive (amitriptyline 1.3 mg/kg rat body weight), soursop leaf extract 25 mg/kg weight rat body, n-hexane fraction, ethyl acetate fraction, and water fraction. The entire group was induced into depression for 14 days using the force swim test method and given treatment for the next 14 days. On day 15, the immobility time of the mice was measured. Data from immobility time measurements were analyzed using shapiro-wilk to determine the normality of the data, then continued with one way anova.

The results showed that administering n-hexane fraction, ethyl acetate fraction, and soursop leaf water at a dose of 0,2 mg/kg BW could reduce immobility time with a reduction percentage of 69,78; 96,4; and 79,64% in male white rats were induced by the forced swimming test (FST). At a percentage of 96,4% the ethyl acetate fraction can provide the most effective antidepressant effect because it has the highest ability to reduce immobility time in mice.

Keywords: Depression, soursop leaves, fractions