

## ABSTRAK

**WATI, NI PUTU MEGA KRISNA, 2022. UJI AKTIVITAS ANTIOKSIDAN SEDIAAN KRIM EKSTRAK DAUN SIRSAK (*Annona muricata L.*) TERHADAP DPPH (*1,1-Diphenyl-2-Picrylhydrazil*), SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA**

Daun sirsak (*Annona muricata L.*) merupakan tanaman yang memiliki manfaat sebagai anti aging karena memiliki kandungan senyawa flavonoid yang bisa berperan sebagai antioksidan. Penelitian sebelumnya kinerja antioksidan ekstrak etanol 96% daun sirsak adalah 79,320 ppm dan termasuk dalam kategori kuat. Tujuan penelitian ini yaitu untuk mengetahui adanya aktivitas antioksidan dan mutu fisik sediaan krim ekstrak daun sirsak.

Ekstraksi dilakukan dengan metode maserasi menggunakan etanol 96%. Ekstrak daun sirsak kemudian diformulasikan menjadi 3 formulasi krim. Sediaan krim dibuat menggunakan variasi konsentrasi setil alkohol pada formula I, II dan III (0,075%, 0,1% dan 0,12%). Sediaan krim di uji mutu fisiknya meliputi organoleptis, homogenitas, tipe krim, pH, daya sebar dan daya lekat, serta uji aktivitas antioksidan sediaan krim ekstrak daun sirsak. Data diolah dengan statistik *One Way ANOVA* dan dilanjutkan dengan uji *Dunnet* dan *Post Hoc Turkey*.

Ekstrak daun sirsak yang diperoleh sebanyak 62 gram. Hasil uji fitokimia menunjukkan bahwa ekstrak daun sirsak mengandung senyawa alkaloid, flavonoid, saponin dan tanin. Sediaan krim ekstrak daun sirsak menunjukkan bahwa FI, FII dan FIII telah memenuhi syarat terhadap mutu fisik krim yaitu organoleptis, homogenitas, tipe krim, pH, daya sebar dan daya lekat. Aktivitas antioksidan ditentukan dengan metode DPPH yang memiliki prinsip penurunan nilai absorbansi yang sebanding dengan kenaikan konsentrasi senyawa antioksidan yang dinyatakan dalam  $IC_{50}$ . Hasil  $IC_{50}$  yang diperoleh ekstrak daun sirsak (*Annona muricata L.*) yaitu 71,57 ppm, vitamin C yaitu 12,75 ppm dan pada krim formula I yaitu 174,06 ppm, formula II yaitu 152,11 ppm, dan formula III yaitu 145,46 ppm. Pada ekstrak daun sirsak mengandung aktivitas antioksidan tergolong kuat, vitamin C tergolong sangat kuat, pada Formula I dan II mengandung aktivitas antioksidan tergolong lemah, sedangkan Formula III mengandung aktivitas antioksidan tergolong sedang. Formula III dengan variasi konsentrasi setil alkohol 0,12% merupakan formula krim terbaik yaitu dengan  $IC_{50}$  terendah, maka aktivitas antioksidannya tinggi.

**Kata Kunci :** Antioksidan, Daun sirsak (*Annona muricata L.*), DPPH, Mutu Fisik Krim

## ABSTRACT

**WATI, NI PUTU MEGA KRISNA, 2022. ANTIOXIDANT ACTIVITY TEST OF SOURSOP LEAF EXTRACT (*Annona muricata* L.) PREPARATION TEST AGAINST DPPH (1,1-Diphenyl-2-Picrylhydrazil), Thesis PROPOSAL, FACULTY OF PHARMACEUTICAL SETIA BUDI UNIVERSITY, SURAKARTA**

*Soursop leaf (*Annona muricata* L.) is a plant that has anti-aging benefits because it contains flavonoid compounds that can act as antioxidants. Previous research on the antioxidant performance of 96% ethanol extract of soursop leaves was 79.320 ppm and included in the strong category. The purpose of this study was to determine the presence of antioxidant activity and the physical quality of soursop leaf extract cream preparations.*

*Extraction was carried out by maceration method using 96% ethanol. Soursop leaf extract is then formulated into 3 cream formulations. Cream preparations were made using various concentrations of cetyl alcohol in formulas I, II and III (0.075%, 0.1% and 0.12%). The cream preparations were tested for physical quality including organoleptic, homogeneity, cream type, pH, dispersibility and adhesion, as well as antioxidant activity tests for soursop leaf extract cream preparations. The data were processed with One Way ANOVA statistics and continued with Dunnet and Post Hoc Turkey tests.*

*Soursop leaf extract obtained as much as 62 grams. Phytochemical test results showed that soursop leaf extract contains alkaloids, flavonoids, saponins and tannins. The preparation of soursop leaf extract cream showed that FI, FII and FIII had met the requirements for the physical quality of the cream, namely organoleptic, homogeneity, cream type, pH, spreadability and adhesion. Antioxidant activity was determined by the DPPH method which has the principle of decreasing the absorbance value which is proportional to the increase in the concentration of antioxidant compounds expressed in IC<sub>50</sub>. The IC<sub>50</sub> results obtained from soursop leaf extract (*Annona muricata* L.) are 71.57 ppm, vitamin C is 12.75 ppm and in cream formula I is 174.06 ppm, formula II is 152.11 ppm, and formula III is 145,46 ppm. Soursop leaf extract contains strong antioxidant activity, vitamin C is very strong, Formula I and II contain weak antioxidant activity, while Formula III contains moderate antioxidant activity. Formula III with 0.12% cetyl alcohol concentration variation is the best cream formula with the lowest IC<sub>50</sub>, so the antioxidant activity is high.*

**Keywords:** Antioxidants, Soursop Leaf (*Annona muricata* L.), DPPH, Physical Quality of Cream