ABSTRAK

FORMULASI GRANUL *EFFERVESCENT* EKSTRAK BUNGA TELANG (Clitoria ternatea) DENGAN VARIASI ASAM SITRAT DAN ASAM TARTRAT SERTA UJI AKTIVITAS ANTIOKSIDAN DAN UJI HEDONIKNYA

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Latar Belakang : Ekstrak bunga telang memiliki aktivitas farmakologi sebagai antioksidan karena mengandung metabolit sekunder yaitu flavonoid, antosianin, saponin, dan tanin. Sehingga, berpotensi untuk dikembangkan menjadi sediaan granul *effervescent* dengan variasi asam sitrat dan asam tartrat karena kombinasi asam penting karena dapat mempermudah proses pembuatan granul agar tidak mudah menggumpal saat dilarutkan dengan air. Penelitian ini bertujuan untuk mengetahui nilai IC_{50} dari ketiga formula granul *effervescent* serta mengetahui pengaruh variasi asam sitrat dan asam tartrat terhadap aktivitas antioksidan granul *effervescent*. Selain itu dilakukan uji Hedonik untuk mengetahui formula yang paling disukai masyarakat.

Metodologi : Penelitian eksperimental yang dilakukan yaitu meliputi formulasi, evaluasi sifat fisik granul, uji aktivitas antioksidan dengan metode *diphenyl picrylhydrazyl* (DPPH) serta Uji Hedonik dengan melibatkan 30 panelis. Formulasi dibuat dengan variasi asam sitrat dan asam tartrat FI (45:580); FII (47,25;577,75); FIII (50:575). Hasil data evaluasi sifat fisik dianalisis secara deskriptif, data uji aktivitas antioksidan dan uji hedonik dianalisis dengan uji kruskall wallis, dan apabila terdapat perbedaan nyata yang signifikan dilanjutkan dengan uji *Duncan Multiple Range Test* (DMRT).

Hasil Penelitian: Hasil penelitian menunjukkan bahwa data evaluasi sifat fisik granul *effervescent* semua formula memenuhi syarat. Adanya variasi asam sitrat dan tartrat tidak memberikan pengaruh pada aktivitas antioksidan akan tetapi ketiganya berada dalam kategori yang sama dalam rentang nilai 50-100 ug/mL yaitu kategori kuat.

Kesimpulan: Data evaluasi sifat fisik granul *effervescent* ketiga formula memenuhi syarat. Nilai IC_{50} ketiga formula masuk dalam kategori kuat dengan nilai secara berturut-turut yaitu FI (75,369±0,894ug/mL); FII (72,659±2,58ug/mL), dan FIII (60,857±1,54ug/mL). Berdasarkan uji hedonik dari segi warna larutan dan rasa tidak ada perbedaan yang signifikan sedangkan dari segi warna granul dan rasa formula yang paling disukai adalah FI.

Kata Kunci: Bunga Telang, Antioksidan, Granul *Effervescent*, Hedonik, *Clitoria ternatea*

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ABSTRACT

FORMULATION, ACTIVITY AND HEDONIC TEST OF EFFERVESCENT GRANULATE BUTTERFLY PEA (*Clitoria ternatea*) EXTRACT WITH VARIATION OF CITRIC ACID AND TARTARIC ACID

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Background : Butterfly pea extract has pharmacological activity as an antioxidant because it contains secondary metabolites, namely flavonoids, anthocyanins, saponins, and tannins. Thus, it has the potential to be developed into effervescent granule preparations with variations of citric acid and tartaric acid because the combination of acids is important because it can facilitate the process of making granules so that they are not easy to clot when dissolved in water. This study aims to determine the IC_{50} value of the three effervescent granule formulas and to determine the effect of variations in citric acid and tartaric acid on the antioxidant activity of effervescent granules. In addition, a hedonic test was carried out to find out the formula that the community liked the most.

Methodology: Experimental research carried out includes formulation, evaluation of physical properties of granules, antioxidant activity test using the diphenyl picrylhydrazyl (DPPH) method and hedonic test involving 30 panelists. The formulation was made with variations of citric acid and tartaric acid FI (45:580); FII (47.25; 577.75); FIII (50:575). The results of the physical properties evaluation data were analyzed descriptively, the antioxidant activity test and the hedonic test were analyzed by the Kruskall-Wallis test, and if there was a significant real difference, it was continued with the Duncan Multiple Range Test (DMRT).

Results: The results showed that the evaluation data of the physical properties of the effervescent granules met the requirements. The presence of variations in citric and tartaric acids did not affect the antioxidant activity, but all three were in the same category in the value range of 50-100 ug/mL, namely the strong category..

Conclusion: The data on the evaluation of the physical properties of the effervescent granules of the three formulas met the requirements. The IC_{50} values of the three formulas are in the strong category with successive values of FI (75.369±0.894ug/mL); FII (72.659±2.58ug/mL), and FIII (60.857±1.54ug/mL). Based on the hedonic test in terms of solution color and taste there was no significant difference while in terms of granule color and taste the most preferred formula was FI.

Keywords: Butterfly pea, Antioxidant, Effervescent Granule, Hedonic, *Clitoria ternatea*

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