INTISARI

Tetrahidropentagamavunon-0 (THPGV-0) merupakan salah satu senyawa analog tetrahidrokurkumin yang memiliki aktivitas antioksidan yang baik. Emulgel merupakan sediaan topikal yang banyak digunakan yang terdiri dari sistem emulsi yang didispersikan ke dalam matriks gel. Untuk mendapatkan emulsi dengan sifat fisik yang optimal perlu diketahui jumlah emulgator yang tepat. Penelitiaan ini bertujuan untuk mengoptimasi penggunaan Tween 80 dan Span 80 sebagai emulgator pada sistem emulsi yang akan didispersikan ke matriks gel.

Optimasi emulsi dilakukan menggunakan *Simplex Lattice Design* terhadap tween 80 dan span 80 dengan respon viskositas, rasio pemisahan dan ukuran globul. Formula optimum emulsi selanjutnya didispersikan kedalam karbopol 940 (1% b/b) membentuk sediaan emulgel yang mengandung THPGV-0 (0,025% b/b). Uji sediaan emulgel yang dilakukan yaitu organoleptis, pH, daya lekat, daya sebar, viskositas, dan stabilitas fisik (*freeze-thaw cycles* dan sineresis). Hasil uji sediaan emulgel dianalisis menggunakan *oneway* ANOVA.

Formula emulsi optimum terdiri dari 1% tween 80 dan 5% span 80 dengan viskositas 0,239 d.Pas, rasio pemisahan 0,373 dan ukuran partikel 192,593 mikrometer^2. Emulgel yang dihasilkan emulgel yang homogen, memiliki pH 6,25±0,50, sineresis sebesar 0,39±0,11% , daya lekat 7,29±3,53 detik, daya sebar 14,53±0,56 cm^2, serta viskositas 132±25,95 d.Pas. Sediaan emulgel stabil dalam uji stabilitas fisik kecuali pada daya lekat, viskositasnya mengalami penurunan dan terjadi sineresis.

Kata kunci : Tetrahidropentagamavunon-0 (THPGV-0), Tween 80, Span 80, Emulgel

ABSTRACT

Tetrahidropentagamavunon-0 (THPGV-0) is one of the tetrahidrocurcumin analogue compounds, which has good antioxidant activity. Emulgel is a widely used as topical medication that consists of the system of emulsion, which dispersed into matrix gel. The amount of emulsifiers should be known, in order to get optimum physical characteristic of the emulsion. The aims of this study is to optimise the use of Tween 80 and Span 80 as emulsifier on the system of emulsion, which then will be dispersed into matrix gel.

The optimization of emulsion was conducted by using *Simplex Lattice Design* to Tween 80 and Span 80 with viscosity respond, separating ratio and the size of globul. The optimum formula of emulsion then further dispersed into carbopol 940 (1% b/b) forming an emulsifier containing THPGV-0 (0.025% b/b). The test of emulsions dosage conducted including organoleptic, pH, ductility, spreading power, viscosity, and physical stability (freeze-thaw cycles and syneresis). And the result of the emulsions was analysed by using oneway ANOVA.

The optimum formula of emulsion consisting 1% of tween 80 and 5% of Span 80 with viscosity of 0.239 d.Pas, separating power of 0.373, and the size of particle 192.593 mm^2. Emulgel produced a homogeneous emulgel, which has pH of 6.25±0.50, synersis 0.39±0.11%, ductility of 7.29±3.53 second, spreading power power of 14.53±0.56 cm^2, and viscosity of 132±25.95 d.Pas. As for the result of the experiment, the emulgel produced achieved the physical stability except ductility, the viscosity decreased and syneresis occurred.

Keywords: Tetrahidropentagamavunon-0 (THPGV-0), Tween 80, Span 80, Emulgel