

INTISARI

Kepel merupakan salah satu tumbuhan yang telah teruji memiliki efek antihiperurisemia dan diperkirakan aktivitas tersebut merupakan kontribusi senyawa flavonoid. Pada penelitian ini ekstrak daun kepel akan diformulasikan menjadi sediaan farmasi berupa tablet. Penelitian ini bertujuan untuk mengetahui pengaruh variasi konsentrasi *Sodium Starch Glycolate* (SSG) dan Polivinilpirolidon (PVP) terhadap sifat fisik tablet ekstrak daun kepel sehingga akan diperoleh formula optimum dan menghasilkan tablet yang memenuhi persyaratan.

Metode optimasi yang digunakan adalah *Simplex Lattice Design*. Dari metode ini diperoleh 8 *run* dengan variasi konsentrasi SSG dan PVP. Analisis formula optimum dilakukan menggunakan *Software Design Expert version 10.0.1* dengan parameter penetapan, daya serap air, keragaman bobot, kekerasan, kerapuhan dan waktu hancur tablet. Tablet hasil formula optimum di uji stabilitas dalam *climatic chamber* pada kondisi penyimpanan untuk studi dipercepat yaitu $40^{\circ}\text{C} \pm 2^{\circ}\text{C}/75\% \text{RH} \pm 5\% \text{RH}$ selama 4 minggu.

Hasil optimasi diperoleh formula optimum dengan proporsi konsentrasi 5% SSG dan 2% PVP. SSG berpengaruh dominan dalam meningkatkan kerapuhan dan variasi bobot tablet serta menurunkan waktu hancur tablet, sedangkan PVP berpengaruh dominan dalam menurunkan kerapuhan, meningkatkan kekerasan dan waktu hancur tablet. Hasil uji stabilitas menunjukkan perubahan signifikan pada kadar flavonoid total, kekerasan, kerapuhan dan waktu hancur tablet, namun bobot tablet tetap seragam.

Kata kunci : Kepel, *Sodium Starch Glycolate*, Polivinilpirolidon, Stabilitas

ABSTRACT

Kepel is one of the plant that has been tested to have antihyperuricemic activity, which is estimated as a contribution of flavonoid compounds. In this research, Kepel leaf extract will be formulated into tablets. The purpose of this research is to understand the effect of variation concentration Sodium Starch Glycolate (SSG) and Polyvinylpyrrolidone (PVP) on the physical properties of Kepel leaf extract tablets.

The optimization method which used is Simplex Lattice Design. From this method obtained 8 run with variation concentration of SSG and PVP. Optimum formula determined using Design Expert with tapping index, water absorption, weight uniformity, hardness, friability and tablet disintegration time as parameter. Stability testing was performed using climatic chamber under conditions of storage for an accelerated study of $40^{\circ}\text{C} \pm 2^{\circ}\text{C} / 75\% \text{RH} \pm 5\% \text{RH}$ for 4 weeks.

The optimum result was obtained with the proportion 5% of SSG and 2% of PVP. SSG has dominant effect in decreasing the disintegration time, increasing friability and weight variation of tablets, whereas PVP has dominant effect in decreasing friability, increasing hardness and disintegration time of tablets. The results of the stability test showed significant changes in total flavonoid content, hardness, friability and disintegration time of tablets, but the weight of the tablet remained uniform.

Keywords: Kepel, Sodium Starch Glycolate, Polyvinylpyrrolidone, Stability