

INTISARI

Levofloksasin merupakan antibiotik pilihan untuk pengobatan infeksi *Helicobacter pylori* pada lambung. Formulasi levofloksasin menjadi tablet *floating* dapat meningkatkan efikasinya karena memperpanjang waktu tinggal obat di lambung serta mampu mempertahankan bioavailabilitas obat dalam waktu yang lama. Penelitian ini bertujuan untuk mengetahui pengaruh variasi HPMC K100M[®] dan *xanthan gum* terhadap sifat fisik granul dan sifat fisik tablet serta Proporsi keduanya dalam formula optimum.

Pembuatan tablet *floating* levofloksasin dilakukan dengan metode granulasi basah. Formula optimum didapat berdasarkan analisis *software Design Expert[®] Versi 11.01* terhadap respon kecepatan alir granul, *swelling index*, *floating lag time*, dan disolusi tablet dengan metode *Simplex Lattice Design (SLD)*. Verifikasi formula optimum dilakukan dengan uji *one sample t-test* pada taraf kepercayaan 95%. Peningkatan jumlah HPMC K100M[®] mempercepat *floating lag time* dan menurunkan presentase obat terdisolusi.

Peningkatan *xanthan gum* menaikkan kecepatan alir, sedangkan kombinasi keduanya menaikkan *swelling index*. Formula optimum didapatkan pada kombinasi HPMC 27,02% dan *xanthan gum* pada 7,9% dengan karakteristik sifat alir granul 13 g/s, *swelling index* 337%, *floating lag time* 436 s, dan persentase pelepasan pada menit ke 360 mencapai >75%.

Kata kunci : Levofloksasin, *Floating*, HPMC K100M[®], *Xanthan Gum*

ABSTRACT

Levofloxacin is a drug choice for treatment of *Helicobacter pylori* infection. Formulating levofloxacin into floating tablet increases its efficiency by prolong drug release and maintain the bioavailability. The study aims to determine the influence of HPMC K100M® and *Xanthan gum* to physical properties of granule and physical properties of tablet, as well as its optimum composition in optimum formula.

The preparation using wet granulation method. Optimum Formula is analysed by software Design Expert® version 11.01 based on the respons of flowability, swelling index, floating lag time, and dissolution tablet with Simplex Lattice Design (SLD) method. Verification of Optimum formula is done by statistical one sample T-Test test at 95% confidence level. The increasing number of HPMC K100M® accelerate the floating lag time and decrease the percentage drug release.

Xanthan gum increases the flowability of granules, while the combination of both raises the swelling index. Optimum Formula is obtained at 27.02% of HPMC and 7.9% of xanthan gum with characteristic of granule flowability 13 g/s, swelling index 337%, floating lag time 436 s, and percentage drug release at a minute to 360 reached > 75%.

Keywords : Levofloxacin, Floating, HPMC K100M®, Xanthan Gum