

ABSTRAK

SOLEHKAWATI, N.A., 2015, OPTIMASI FORMULA KOMBINASI PENGISI MANITOL DAN PENGHANCUR *CROSPVIDON* DALAM PEMBUATAN *FAST DISSOLVING TABLET* FAMOTIDIN DENGAN METODE *FACTORIAL DESIGN*, SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA.

Famotidin merupakan histamin H₂-reseptor. Famotidin digunakan secara luas untuk ulkus lambung, duodenum borok, ellison zollinger-sindrom dan penyakit refluks gastroesophageal. Famotidin dibuat dalam sediaan *fast dissolving tablet* yang dapat hancur dengan cepat dalam cairan saliva tanpa menggunakan air dan memberikan rasa yang enak. Tujuan dari penelitian ini adalah mengetahui pengaruh kombinasi *Crospovidon* dan Manitol terhadap sifat fisik FDT famotidin dan mendapatkan perbandingan *Crospovidon* dan Manitol yang dapat memberikan sifat fisik dan rasa FDT famotidin yang optimum dengan metode *factorial design*.

Penelitian ini dilakukan menggunakan empat formula variasi kombinasi manitol dan *crospovidon*. Tablet dikempa menggunakan metode kempa langsung dan dilakukan pengujian terhadap sifat fisik granul, tablet, dan pelepasan obat. Metode *factorial design* diaplikasikan untuk mengoptimasi tablet. Penentuan formula optimum dengan *counter plot* dari parameter waktu alir, waktu hancur, pembasahan dan disolusi menggunakan software Design Expert Versi 8.0.6.

Hasil penelitian menunjukkan bahwa interaksi antara *crospovidon* dan manitol dapat meningkatkan waktu hancur dan pelepasan obat serta dapat memberikan rasa yang enak. Berdasarkan *counter plot* diperoleh formula optimum tablet FDT famotidin dengan kombinasi manitol sebesar 50 mg dan *crospovidon* sebesar 10 mg. Respon sifat fisik formula optimum dari hasil prediksi dan percobaan menunjukkan tidak ada beda signifikan.

Kata kunci : *fast dissolving tablet*, *factorial design*, famotidin, manitol.

ABSTRACT

SOLEHKAWATI, NA. 2015. THE OPTIMIZATION OF COMBINED FORMULA OF MANNITOL FILLER AND CROSPVIDON CRUSHERS IN MAKING OF FAST DISSOLVING TABLET FAMOTIDINE WITH FACTORIAL DESIGN METHOD.THESIS.PHARMACYFACULTY.SETIA BUDI UNIVERSITY. SURAKARTA.

Famotidine is histamine H₂-receptor. Famotidine was widely used for gastric ulcers, duodenal ulcers, Zollinger-Ellison syndrome and gastroesophageal reflux disease. Famotidine is made in the preparation of fast-dissolving tablet that can disintegrate quickly in the saliva fluids without the use of water and provide good taste. The study purposes were determined the effect of the combination of Crospovidon and Mannitol on the physical properties of FDT famotidine and get comparison of Crospovidon and Mannitol which can provide optimum physical properties and flavor of FDT famotidine by the factorial design method.

This study was conducted using four formulas variation of combination of mannitol and crospovidon. The tablets were compressed using direct press and conducted testing on the physical properties of the granules, tablets, and drug release. The factorial design method was applied to optimize tablet. The determination of the optimum formula was used counter plot of parameters of flow time and, dissolved time, wetting and dissolution was used software of Design Expert Version 8.0.6.

The results were showed that the interaction of crospovidon and mannitol can increase dissolved time and drug release and can provide good taste. Based on the counter plot was obtained the optimum formula of FDT famotidine tablets with the combination of 50 mg mannitol and 10 mg crospovidon. The response of physical properties of the optimum formula of predictions and experimental results were showed no significant difference.

Keywords: fast dissolving tablets, factorial design, famotidine, mannitol.