INTISARI

MULIAWATI, NISA'UL BUDI, 2014, OPTIMASI FORMULASI *ORALLY DISINTEGRATING TABLET* IBUPROFEN DENGAN KOMBINASI PENGHANCUR AC-DI-SOL DAN PENGIKAT *MICROCRYSTALLINE CELLULOSE* DENGAN METODE *SIMPLEX LATTICE DESIGN*, SKRIPSI, UNIVERSITAS SETIA BUDI, SURAKARTA.

Ibuprofen merupakan analgetik yang dapat meringankan nyeri ringan sampai sedang. Untuk meningkatkan kenyamanan dan kepatuhan pasien dalam mengonsumsi obat terutama pasien pediatri dan geriatri, maka ibuprofen dibuat dalam sediaan *orally disintegrating tablet*(ODT) yang dirancang untuk segera hancur di mulut dengan bantuan sedikit air agar pelepasan obat lebih cepat. Berdasarkan hal tersebut, dilakukan penelitian tentang optimasi *orally disintegrating tablet* ibuprofen dengan kombinasi penghancur Ac-di-sol® dan pengikat *microcystalline cellulose.*

Penelitian ini dibuat dalam tiga formulasi yaitu: FI (*microcystalline cellulose* 100% : Ac-di-sol® 0%), FII (*microcystalline cellulose* 50% : Ac-di-sol® 50%) dan F III (*microcystalline cellulose* 0% : Ac-di-sol® 100%). Tablet dibuat dengan metode granulasi kering dan dicetak dengan bobot tablet 205 mg dan dilakukan pengujian sifat fisik granul dan tablet. Penentuan formula optimum menggunakan metode *Simplex Lattice Design (*SLD) dengan *Software Design Expert 8.0.6.* Hasil teoritis dan percobaan formula optimum dianalisis dengan menggunakan uji t.

Hasil penelitian menunjukkan bahwa ibuprofen dapat dibuat sediaan *orally disintegrating tablet* dengan kombinasi penghancur Ac-di-sol® dan pengikat *microcystalline cellulose* yang berpengaruh terhadap mutu fisik tablet dengan proporsi *microcystalline cellulose* 90% dan Ac-di-sol® 10%.

Kata kunci: ibuprofen, *orally disintegrating tablet*, SLD, *microcystalline cellulose*, Ac-di-sol®

ABSTRACT

MULIAWATI, NISA'UL BUDI, 2014, FORMULA OPTIMIZATION OF ORALLY DISINTEGRATING TABLET IBUPROFEN WITH DISINTEGRANT AC-DI-SOL AND BINDER MICROCRYSTALLINE CELLULOSE COMBINATION BY SIMPLEX LATTICE DESIGN, THESIS, SETIA BUDI UNIVERSITY, SURAKARTA.

Ibuprofen is analgesic drug that can relieve mild to moderate pain. To improve the convenience and compliance of patient in taking medication especially pediatric and geriatric patients, the dosage of ibuprofen is made in Orally Disintegrating Tablet. It is designed to immediately disintegrate in the mouth with the help of little water for fast drug release. According to this, a study was conducted on the optimization of Orally Disintegrating Tablet ibuprofen with a combination of disintegrating Ac-di-sol® and binder microcystalline cellulose.

The study was made in three formulas, they were : FI (microcystalline cellulose 100% : Ac-di-sol® 0%), FII (microcystalline cellulose 50% : Ac-di-sol® 50%) and F III (microcystalline cellulose 0% : Ac-di-sol® 100%). Tablets were made by dry granulation method, and compressed to 205 mg weight of tablet and tested for the physical properties. The properties determinations of the optimum formula used Simplex Lattice Design method(SLD) wih Software Design Expert 8.0.6.The experimenal results and the theoritical optimum formula were analyzed using t-test.

The result showed that ibuprofen could be made orally disintegrating tablet preparation, and the combination of disintegrating Ac-di-sol® and binder microcystalline cellulose affected the phisical quality of tablet with the proportion microcystalline cellulose 90% dan Ac-di-sol® 10%.

Key words: ibuprofen, orally disintegrating tablet, SLD, microcystalline cellulose, Ac-di-sol®