

INTISARI

WIDYASTUTI, Y., 2014, OPTIMASI FORMULASI *ORALLY DISINTEGRATING TABLET* IBUPROFEN DENGAN KOMBINASI PENGISI MANITOL DAN PENGHANCUR AC-DI-SOL[®] DENGAN METODE *SIMPLEX LATTICE DESIGN*, SKRIPSI, FAKULTAS FARMASI UNIVERSITAS SETIA BUDI, SURAKARTA.

Ibuprofen merupakan obat antiinflamasi nonsteroid, memiliki aksi farmakologis sebagai analgetik, antipiretik dan antiinflamasi yang banyak dipakai masyarakat. Ibuprofen dalam sediaan konvensional menyebabkan ketidak patuhan pasien golongan pediatrie dan geriatrie dalam penggunaan obat, dikarenakan kesulitan menelan. Oleh karena itu, ibuprofen cocok dibuat dalam sediaan *Orally Disintegrating Tablet* (ODT). Berdasarkan hal tersebut, maka dilakukan penelitian pembuatan *Orally Disintegrating Tablet* Ibuprofen menggunakan pengisi manitol dan penghancur Ac-Di-Sol[®].

Penelitian dilakukan dengan metode *simplex lattice design* (SLD) dengan komponen Manitol (A) dan Ac-Di-Sol[®] (B), sehingga didapatkan 3 rancangan formula yaitu : 100% A : 0% B (FI), 50% A : 50% B (FII), 0% A : 100% B (FIII) yang dibuat secara granulasi kering. Waktu alir, daya serap air, waktu hancur, serta disolusi merupakan parameter optimasi. Berdasarkan model SLD didapatkan persamaan masing-masing parameter, sehingga dapat ditentukan formula optimum. Hasil teoritis dan percobaan formula optimum dianalisis menggunakan uji *t*.

Kombinasi manitol dan Ac-Di-Sol[®] berpengaruh terhadap sifat fisik ODT ibuprofen. Berdasarkan data *simplex lattice design*, perbandingan 79,31 % manitol dan 20,69 % Ac-Di-Sol[®] merupakan formula optimum yang dapat menghasilkan *orally disintegrating tablet* ibuprofen dengan sifat fisik yang memenuhi persyaratan serta memberikan rasa yang enak.

Kata kunci : Ibuprofen, *Orally Disintegrating Tablet*, Manitol, Ac-di-sol[®]

ABSTRACT

WIDYASTUTI, Y., 2014, THE OPTIMIZATION FORMULA OF IBUPROFEN ORALLY DISINTEGRATING TABLET IN COMBINATION WITH MANNITOL AS EXCIPIENTS AND AC-DI-SOL[®] AS DISINTEGRANT BY SIMPLEX LATTICE DESIGN METHOD, THESIS, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY, SURAKARTA.

Ibuprofen is one of nonsteroid antiinflammatory drug, it has pharmacological action as an analgesic, antipyretic and antiinflammatory that widely used in society. Ibuprofen in conventional dosage form causes disobedience of pediatric and geriatric in the use of the drug, due to difficulty swallowing. Therefore, ibuprofen is suitable to be made in Orally Disintegrating Tablet. Accordingly, a study was conducted on the manufacture of Orally Disintegrating tablets of ibuprofen using mannitol as excipients and Ac-Di-Sol[®] as disintegrant.

The study was done by simplex lattice design method (SLD) with mannitol components (A) and Ac-Di-Sol[®](B), to obtain 3 draft formula that were 100% A : 0% B (FI), 50% A : 50% B (FII), 0%A : 100% B (FIII), that were made by dry granulation. Flowing time, water absorption, disintegrating time, and dissolution optimization parameters. Based on a SLD model obtained the equation of each parameter, so it can be determined the optimum formula. The results of theoretical and experimental of optimum formula were analyzed using t-test.

Combination of mannitol and Ac-Di-Sol[®] affected on the physical properties ODT of ibuprofen. Based on data from simplex lattice design, ratio of 79.31% mannitol and 20.69% Ac-Di-Sol[®] was the optimum formula that could produce Orally Disintegrating Tablet of ibuprofen with physical properties that fulfilled the requirements and provide good taste.

Keywords : Ibuprofen, Orally Disintegrating Tablet, Mannitol, Ac-Di-Sol[®]