

INTISARI

WULANDARI, S., 2015, OPTIMASI FORMULA FDT NATRIUM DIKLOFENAK DENGAN KOMBINASI SUPERDISINTEGRANT PRIMOJEL[®], PRIMELLOSE[®] DAN KOMPONEN EFFERVESCENT DENGAN METODE SIMPLEX LATTICE DESIGN, TESIS FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA.

Natrium diklofenak merupakan golongan *non-steroidal anti-inflammatory drug* umumnya digunakan pada pengobatan *rheumatoid arthritis*. Formulasi Na diklofenak dalam sediaan *fast disintegrating tablet* merupakan alternatif yang tepat untuk meningkatkan kenyamanan dan cepat hancur di mulut. Penelitian ini bertujuan untuk mengoptimasi formula FDT natrium diklofenak menggunakan Primojel[®], Primellose[®] dan komponen *effervescent* menggunakan metode *simplex lattice design*.

Daerah optimum ditentukan dengan metode *simplex lattice design* dengan respon kekerasan, kerapuhan, *wetting time*, waktu hancur *in vitro* dan *in vivo*, jumlah obat yang terlepas pada menit 1 dan *dissolution efficiency* selama 5 menit menggunakan *software Design Expert*.

Hasil penelitian menunjukkan komponen *effervescent* memberikan pengaruh bermakna terhadap peningkatan *wetting time*, waktu hancur *in vitro* dan *in vivo*, dan pelepasan obat. Primojel[®] memberikan pengaruh dominan terhadap peningkatan kerapuhan dan Primellose[®] memberikan pengaruh dominan terhadap peningkatan kekerasan. Formula optimum diperoleh pada komposisi Primojel[®] 11,12 mg, Primellose[®] 2,88 mg dan komponen *effervescent* 8,00 mg.

Kata kunci : Primojel[®], Primellose[®], Komponen *effervescent*, *fast disintegrating tablet* na diklofenak, *simplex lattice design*

ABSTRACT

WULANDARI, S., 2015, OPTIMIZATION OF DICLOFENAC SODIUM FAST DISINTEGRATING TABLET USING COMBINATION OF SUPERDISINTEGRANT PRIMOJEL, PRIMELLOSE, AND EFFEVESCENT COMPONENTS BY SIMPLEX LATTICE DESIGN METHOD. POST GRADUATE THESIS, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY

Diclofenac sodium is a non steroidal anti-inflammation drug that generally has been used as rheumatoid arthritis treatment. Formulation of diclofenac sodium in fast disintegrating tablet dosage form is an appropriate alternative to enhance patient compliance and rapidly disintegrated in the mouth. This research was aimed to optimize the formulation of diclofenac sodium fast disintegrating tablet using Primojel, Primellose, and effervescent component by simplex lattice design method.

Optimum region was determined by simplex lattice design with several responses i.e. hardness, friability, wetting time, in vitro and in vivo disintegration time, amount of drug released at 1 min and dissolution efficiency during 5 min using Design Expert software.

The results showed that effervescent components significantly affected on an increase wetting time, in vitro and in vivo disintegration time, and the drug release. Primojel was the most dominant component affected on an increase friability, meanwhile Primellose affected on an increase hardness. The most optimum formula was obtained on Primojel 11,12 mg, Primellose 2,88 mg and effervescent components 8,00 mg.

Keywords: Primojel, Primellose, effervescent component, sodium diclofenac fast disintegrating tablet, simplex lattice design