

INTISARI

DAMAYANTI, DW., 2018, FORMULASI *FAST DISINTEGRATING TABLET* NATRIUM DIKLOFENAK DALAM KOMPLEKS INKLUSI β -SIKLODEKSTRIN MENGGUNAKAN *CROSSCARMELLOSE SODIUM* DAN *SODIUM STARCH GLYCOLATE* SEBAGAI *SUPERDISINTEGRANT*, SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA

Natrium diklofenak merupakan obat golongan NSAID (*Non-Steroidal Anti-Inflammatory Drug*), BCS kelas II dan memiliki rasa pahit sehingga mengurangi kenyamanan pasien baik yang susah menelan. Alternatif FDT (*Fast Disintegrating Tablet*) natrium diklofenak dalam kompleks inklusi β -siklodekstrin merupakan salah satu cara untuk mengatasi masalah tersebut. Penelitian ini bertujuan untuk mengetahui pengaruh kombinasi superdisinterant *croscarmellose sodium* dan *sodium starch glycolate* pada FDT natrium diklofenak terhadap mutu fisik dan profil disolusinya.

Kompleks inklusi dibuat dengan metode *kneading* dengan perbandingan 1 : 1,5 molar kemudian dikarakteristisasi dengan *Fourier – Transform Infrared* (FTIR) dan *Differential Scanning Calorimetry* (DSC). FDT dibuat dengan metode kempa langsung dengan variasi konsentrasi *croscarmellose sodium* dan *sodium starch glycolate* perbandingan 0:100%; 25:75%; 50:50%; 75:25%; 100:0%. Pengujian keseragaman bobot, keseragaman kandungan, kekerasan, kerapuhan, waktu pembasahan, waktu hancur (*in vivo & in vitro*), dan disolusi dilakukan untuk mengetahui mutu fisik FDT natrium diklofenak

Hasil menunjukkan bahwa kombinasi *superdisintegrant croscarmellose sodium* dan *sodium starch glycolate* dapat menurunkan kekerasan, kerapuhan, waktu pembasahan, waktu hancur (*in vivo & in vitro*). Kombinasi *superdisintegrant croscarmellose sodium* dan *sodium starch glycolate* (25 : 75%) berpengaruh terhadap mutu fisik dan pelepasan obat FDT natrium diklofenak yang paling baik.

Kata kunci : *fast disintegrating tablet* (FDT), kompleks inklusi β -siklodekstrin, natrium diklofenak, *croscarmellose sodium*, *sodium starch glycolate*

ABSTRACT

DAMAYANTI, DW., 2018, FORMULATION OF FAST DISINTEGRATING NATRIUM DICLOFENAC TABLET IN β -CYCLODEXTRIN INCLUSION COMPLEX USING CROSSCARMELLOSE SODIUM AND SODIUM STARCH GLYCOLATE AS SUPERDISINTEGRANT

Natrium diclofenac is a kind of NSAID (Non-Steroidal Anti-Inflammatory Drug), BCS class II and has a bitter taste that reduces the comfort of the patients who are getting difficulties in swallowing a pill. The alternative FDT (Fast Disintegrating Tablet) of natrium diclofenac in the β -cyclodextrin inclusion complex is a way to solve the problem. This research aims to determine the effect of superdisintegrant combination between croscarmellose sodium and sodium starch glycolate on FDT natrium diclofenac on physical quality and dissolution profile.

The inclusion complex was made by kneading method with a ratio 1 : 1,5 molar, then characterized by Fourier-Transform Infrared (FTIR) and Differential Scanning Calorimetry (DSC). FDT was made by direct compression method with the variation of croscarmellose sodium and sodium starch glycolate concentration with the ratio of 0:100%; 25:75%;50:50%;75:25%;100:0%. The testing of the uniformity of weight, content, hardness, friability, wetting time, disintegration time (in vivo & in vitro), and dissolution was done to determine the physical quality of FDT natrium diclofenac.

The result shows that the combination of superdisintegrant croscarmellose sodium and sodium starch glycolate can reduce hardness, friability, wetting time, disintegration time (in vivo & in vitro). The combination of superdisintegrant croscarmellose sodium and sodium starch glycolate (25:75%) has an effect on the physical quality and the best drug release of FDT natrium diclofenac.

Key words: *fast disintegrating tablet* (FDT), β -Cyclodextrin Inclusion Complex, natrium diclofenac, *croscarmellose sodium*, *sodium starch glycolate*