INTISARI

ARIF MARISA NUR HIDAYAT, 2016, FORMULASI TABLET LEPAS LAMBAT KAPTOPRIL DENGAN KOMBINASI MATRIKS HIDROKSIPROPIL METIL CELLULOSA (HPMC) K15M DAN XANTHAN GUM, *SKRIPSI*, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI,SURAKARTA

Kaptopril merupakan obat dengan waktu paruh yang sangat pendek (2-3 jam) yang banyak digunakan dalam penyakit dari sistem kadiovaskuler terutama hipertensi dengan frekuensi penggunakan berulang kali dalam sehari, kaptopril diformulasikan dalam bentuk lepas lambat. Tujuan dari penelitian ini adalah mengetahui pengaruh kombinasi HPMC K15M dan xanthan gum terhadap mutu fisik granul, tablet, dan pelepasan obat mengikuti orde nol.

Penelitian ini dibuat dalam lima formulasi antara lain: perbandingan HPMC K15M dan xanthan gum (F1=0%:100%, F2=25%:75%, F3=50%:50%, F4=75%:25%, F5=100%:0%). Tablet dibuat dengan granulasi basah dan dicetak dengan bobot tablet 250 mg. Granul dan tablet yang terbentuk dilakukan pengujian sifat fisik granul dan tablet antara lain: waktu alir, sudut diam, kadar air, keseragaman bobot, kerapuhan, kekerasan tablet, dan disolusi.

Hasil pengujian diperoleh formula dengan menggunakan Matriks HPMC K15M dengan kosentrasi semakin tinggi memperbaiki sifat fisik tablet kaptopril dengan nilai kekerasan semakin tinggi, kerapuhan semakin rendah, sedangkan matriks xanthan gum dengan kosentrasi semakin tinggi memperbaiki waktu alir granul, dan pada formula 2, formula 3, formula 4, dan formula 5, menghasilkan tablet pelepasan kaptopril mengikuti kinetika pelepasan orde nol.

Kata kunci: kaptopril, sediaan lepas lambat, HPMC K15M, xanthan gum, granulasi basah.

ABSTRACT

ARIF MARISA NUR HIDAYAT, 2016, SUSTAINED RELEASE TABLET FORMULA OF CAPTOPRIL WITH MATRIX HYDROXYPROPYL METHYL CELLULOSA (HPMC) K15M AND XANTHAN GUM COMBINATION, THESIS, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY, SURAKARTA.

Captopril is a drug with a very short half-life (2-3 hours) are widely used in diseases of the system cardiovascular especially hypertension with the use of the frequency of multiple times a day, captopril formulated in sustained release form. The purpose of this study was to determine the effect of the combination xanthan gum and HPMC K15M the physical quality of granules, tablets, and drug release follows zero order.

This study was made in five formulations include: comparison of HPMC K15M and xanthan gum (F1 = 0%: 100%, F2 = 25%: 75%, F3 = 50%: 50%, F4 = 75%: 25%, F5 = 100%:0%). Tablets made by wet granulation and printed with a tablet weight of 250 mg. The granules and tablets formed testing the physical properties of the granules and tablets, among others: the flow time, angle of repose, moisture content, weight uniformity, friability, tablet hardness, and dissolution.

The test results obtained formula by using Matrix HPMC K15M with a concentration higher improved physical properties tablet captopril with hardness values higher, the fragility of the lower, while the matrix of xanthan gum at concentrations higher improve flow time of the granules, and in formula 2, formula 3, formula 4 and formula 5, generating captopril tablets release follows zero-order release kinetics.

Keyword: captopril, sutained-release preparations, HPMC K15M, xanthan gum, granulation.