INTISARI

WARDANI, ARUM TRIYAS, 2012, OPTIMASI TABLET LEPAS LAMBAT IBUPROFEN DENGAN MATRIKS HPMC DAN MC SECARA *SIMPLEX LATTICE DESIGN*, SKRIPSI, UNIVERSITAS SETIA BUDI, SURAKARTA

Ibuprofen merupakan obat antiinflamasi nonsteroid yang sering digunakan untuk menghilangkan rasa nyeri. Ibuprofen mempunyai waktu paro yang pendek yaitu sekitar 2 jam jadi pasien harus sering mengkonsumsinya sehingga bisa menyebabkan resiko lupa meminum obat. Efek samping dari ibuprofen adalah menyebabkan gangguan saluran cerna, sehingga apabila digunakan secara berulang-ulang dapat meningkatkan resiko efek samping tersebut. Oleh karena itu, ibuprofen cocok dibuat dalam sediaan lepas lambat. Berdasarkan hal tersebut, dilakukan penelitian tentang pembuatan tablet lepas lambat ibuprofen menggunakan matriks HPMC dan MC.

Penelitian ini dibuat berdasarkan metode *simplex lattice design* (SLD) dengan dua komponen matriks yaitu HPMC dan MC. Penelitian ini dibuat dalam tiga formula antara lain: FI (100% HPMC), FII (50% HPMC : 50% MC), FIII (100% MC). Tablet dibuat secara granulasi basah. Granul dan tablet yang terbentuk lalu diuji mutu fisik. Parameter yang digunakan untuk persamaan SLD adalah kecepatan alir, kompaktibilitas, disolusi. Kemudian dihitung respon dari masing-masing persamaan sehingga diperoleh respon total untuk menentukan formula optimum. Hasil teoritis dan percobaan formula optimum dianalisis menggunakan uji t.

Hasil penelitian menunjukkan bahwa ibuprofen dapat dibuat sediaan lepas lambat, dan kombinasi matriks HPMC dan MC berpengaruh terhadap mutu fisik tablet serta pelepasan ibuprofen. Proporsi yang menghasilkan tablet lepas lambat ibuprofen dengan mutu fisik yang maksimum adalah formula yang mengandung 30% HPMC : 70% MC.

Kata kunci : Ibuprofen, lepas lambat, HPMC, MC

ABSTRACT

WARDANI, ARUM TRIYAS, 2012, OPTIMIZATION SUSTAINED RELEASE TABLET OF IBUPROFEN WITH HPMC AND MC MATRIX BY SIMPLEX LATTICE DESIGN, THESIS, SETIA BUDI UNIVERSITY, SURAKARTA

Ibuprofen is nonsteroidal antiinflamatory drugs that is often used to relieve pain. Ibuprofen has a shorthalf lifetime about 2 hours so patients must often consume so that it can lead to the risk of forgetting to take medicine. Side effects of ibuprofen is causing gastrointestinal disorders, so that when used repeatedly can increase the risk of side effects. Therefore, Ibuprofen is suitable made in sustained release. Based on this, this study was done manufacture of sustained release ibuprofen tablet using HPMC and MC matrix.

This study was based on the method simplex lattice design (SLD) with two matrix components, that was HPMC and MC. The research was made in three formulas are: FI(100% HPMC), FII(50% HPMC: 50% MC), FIII(100% MC). The tablets were made by wet granulation. The obtained granules and tablets were tested the physical quality. The parameters used for SLD equation was flowability, compactibility, dissolution. Then calculated the response of each equation so that the total response was obtained to determine the optimum formula. The results of theoretical and experimental optimum formula were analyzed using t-test.

The results showed that ibuprofen sustained release preparations could be made, and the combination of HPMC and MC matrix affected the physical quality and the release of ibuprofen tablet. The proportion that produced sustained release ibuprofen tablet with a maximum physical quality was the formula containing 30% HPMC: 70% MC.

Keywords : Ibuprofen, sustained release, HPMC, MC