

## INTISARI

### **RAHMAN, F., 2014, FORMULASI TABLET MUKOADHESIF PROPRANOLOL HCL DENGAN KOMBINASI MATRIKS XANTHAN GUM DAN HPMC K15M, SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA**

Propranolol HCl merupakan obat golongan beta-blocker untuk pengobatan hipertensi yang mempunyai karakteristik larut dalam air, waktu paruh 3-6 jam dan hampir lengkap terabsorpsi dalam gastrointestinal. Formulasi propranolol HCl dalam sediaan lepas lambat dengan sistem mukoadhesif dapat mempertahankan kadar obat pada konsentrasi terapeutik dalam waktu lebih lama. Penelitian ini bertujuan untuk mengetahui xanthan gum dan HPMC K15M dapat memberikan pengaruh terhadap sifat fisik tablet dan profil disolusi.

Penelitian ini dilakukan terhadap lima formula dengan perbandingan matriks xanthan gum dan HPMC K15M yang berbeda yaitu FI (100% : 0%), FII (75% : 25%), FIII (50% : 50%), FIV (25% : 75%) dan FV (0% : 100%). Bobot tiap tablet 250 mg dengan kandungan propranolol HCl 80 mg. Setiap formula dilakukan uji sifat fisik granul (waktu alir, kelembaban daya serap), uji sifat fisik tablet (keseragaman bobot, kekerasan, kerapuhan, *swelling index*, daya lekat) dan uji disolusi. Data dianalisa dengan uji statistik menggunakan ANOVA satu jalan.

Hasil menunjukkan bahwa peningkatan xanthan gum dapat menurunkan waktu alir, kelembaban, daya serap dan meningkatkan *swelling index*, daya lekat serta kecepatan pelepasan obat. Formula I dengan perbandingan 100 % xanthan gum dan 0% HPMC K15M merupakan formula terbaik karena memiliki mutu fisik yang lebih baik serta konsentrasi disolusi yang mendekati kadar terapeutik propranolol HCl.

---

Kata kunci : Propranolol HCl, Xanthan gum, HPMC K15M, Mukoadhesif.

## ABSTRACT

**RAHMAN, F., 2014, FORMULATION OF MUCOADHESIVE TABLETS USING COMBINATION XANTHAN GUM AND HPMC K15M AS MATRIX, THESIS, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY, SURAKARTA**

Propranolol HCl is a beta-blocker class of drugs for treatment of hypertension that has characteristics of a water-soluble, the half time of 3-6 hours and almost completely absorbed in the gastrointestinal tract. Formulations of propranolol HCl in sustained release mucoadhesive system can maintain drug level at therapeutic concentrations in a longer time. This study aims to determine the xanthan gum and HPMC K15M can influence the physical properties of tablets and dissolution profile.

The research was conducted on the five comparison matrix formula with xanthan gum and HPMC K15M differently in FI (100% : 0%), FII (75% : 25%), FIII (50% : 50%), FIV (25% : 75%) and FV (0% : 100%). The weight of each tablet was 250 mg containing 80 mg of propranolol HCl. Each formula was tested for the physical properties of the granules (flow time, moisture, water absorption), the physical properties of tablets (weight uniformity, hardness, friability, swelling index, mucoadhesive adhesion) and dissolution test. Data were analyzed by statistical test using one way ANOVA.

The results showed that the increased in xanthan gum could reduce flow time, moisture, water absorption and increased the swelling index, mucoadhesive adhesion and drug release rate. Formula I with a ratio of 100% xanthan gum and 0% HPMC K15M was the best formula because it had good physical quality and concentration level approaching dissolution therapeutic of propranolol HCl.

---

Key words : Propranolol HCl, Xanthan gum, HPMC K15M, Mucoadhesive