INTISARI

Levofloksasin merupakan antibakteri generasi ketiga dari golongan fluorokuinolon yang memiliki aktivitas antibakteri spektrum luas. Profil disolusi nya penting dilakukan evaluasi terkait dengan aktivitasnya sebagai obat antibiotik. Penelitian ini merupakan implementasi dari pendekatan populasi dalam analisis profil disolusi levofloksasin pada sediaan tablet *mucoadhesive.* Tujuan dilakukannya penelitian ini untuk menentukan model kompartemen berbasis pendekatan individu dan menentukan parameter profil disolusi berbasis pendekatan individu dan populasi.

Tablet *mucoadhesive* dibuat menggunakan metode granulasi basah. Tablet dilakukan evaluasi sifat fisik dan uji disolusi. Metode penelitian yang dilakukan dalam analisis profil disolusi tablet *mucoadhesive* levofloksasin yaitu menggunakan perangkat lunak WinSAAM dan Monolix. WinSAAM digunakan untuk memodelkan kompartemen berbasis individu. Monolix digunakan dalam analisis pendekatan berbasis populasi.

Hasil penelitian menunjukkan profil disolusi obat yang di analisis dengan pendekatan berbasis individu perangkat lunak WinSAAM mengikuti model tiga kompartemen. Analisis profil disolusi berbasis populasi dengan Monolix menghasilkan parameter profil disolusi yaitu k1 = 0,41/jam, k2 = 4,02/jam, k3 = 0,04/jam, dan lag time 1,27 jam.

Kata kunci: Levofloksasin, *Mucoadhesive,* WinSAAM, Monolix.

ABSTRACT

Levofloxacin is a third generation antibacterial from the fluoroquinolone group which has broad spectrum antibacterial activity. It is important to evaluate its completion profile in relation to its activity as an antibiotic drug. This study is an implementation of the population approach in the analysis of the dissolution profile of levofloxacin on mucoadhesive tablets. The purpose of this study was to determine the compartmental model based on individual approaches and to determine dissolution profile parameters based on individual and population approaches.

Mucoadhesive tablets were prepared using the wet granulation method. The tablets were then evaluated for their physical properties and dissolution tests. The research method used in the analysis of the dissolution profile of levofloxacin mucoadhesive tablets was using WinSAAM and Monolix software. WinSAAM is used to model individual based compartments. Monolix is used in a population-based analysis approach.

The results showed that the drug dissolution profiles were analyzed using an individual approach based on the WinSAAM software following a three-compartment model. Population-based dissolution profile analysis with Monolix produced dissolution profile parameters, namely k1 = 0.41/hour, k2 = 4.02/hour, k3 = 0.04/hour, and a lag time of 1.27 hours.

Keywords: Levofloxacin, Mucoadhesive, WinSAAM, Monolix.