STUDI LITERATUR
PENINGKATAN PROFIL DISOLUSI OBAT SUKAR LARUT AIR HASIL PEMBENTUKAN KOMPLEKS INKLUSI

SKRIPSI

MARIA LAURENTIA LISBERTH MOA
A161106

SEKOLAH TINGGI FARMASI INDONESIA
YAYASAN HAZANAH
BANDUNG
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Sebagai salah satu syarat untuk memperoleh gelar Sarjana Farmasi

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Disetujui oleh:

Pembimbing	Pembimbing
apt. Revika Rachmaniar, M.Farm.	Drs. apt. Sohadi Warya, M.Si.

Dengan bangga skripsi ini ku persembahkan untuk orang tua tercinta (Martinus Mexin dan Rini Sesilia Kelanit) serta adik ku (Antonia Septiani Moa) dan kakak ku (Deodatus Irianto Moa). Tak lupa juga untuk sang pacar (Benediktus Bunmop). Terimakasih atas segala doa, dukungan, jerih payah dan pengorbanan yang telah diberikan. Tanpa kalian, gelar Sarjana Ini tidak akan tercapai. Tuhan Yesus Memberkati. Amin.

ABSTRAK

Profil disolusi berperan penting dalam penentuan khasiat dan aktivitas obat. Obat sukar larut air mengakibatkan profil disolusi rendah sehingga absorbsi menjadi sulit dan bioavailabilitas menjadi lambat. Profil disolusi dapat ditingkatkan dengan memperbaiki sifat fisikokimia melalui pembentukan kompleks inklusi (KI), yang merupakan kesetimbangan antara obat sebagai molekul tamu dan pengompleks sebagai molekul tuan rumah. Tujuan studi literatur ini adalah membahas metode KI yang efektif meningkatkan disolusi menggunakan pengompleks siklodektrin (CD) dan turunannya. Metode yang digunakan adalah melakukan studi literatur 22 artikel jurnal internasional yang membahas peningkatan disolusi KI obat sukar larut air. Dari hasil studi literatur ini, data menunjukkan KI obat sukar larut air dapat meningkatkan profil disolusi hingga 60 kali menggunakan *spray drying*; 47,1 kali menggunakan pencampuran fisik; 30 kali menggunakan *freeze drying*; 26 kali menggunakan *kneading*; 10 kali menggunakan solven evaporasi; 8,87 kali menggunakan ko-presipitasi; 4,76 kali menggunakan ko-evaporasi; 1,13 kali menggunakan *co-grinding*. Peningkatan profil disolusi obat juga dipengaruhi pengompleks dimana peningkatan profil disolusi KI menggunakan pengompleks Sitrat-β-CD meningkat 60 kali, HP-β-CD meningkat 30 kali, β-CD meningkat 27,1 kali, RM-β-CD meningkat 26 kali, dan SBE7-β-CD meningkat 1,26 kali. Berdasarkan telaah tersebut, disimpulkan bahwa *spray drying* dengan pengompleks sitrat-β-CD meningkatkan profil disolusi obat palling tinggi dibandingkan metode dan pengompleks lain.

Kata kunci: Siklodektrin, disolusi, kompleks inklusi, metode, pengompleks.

ABSTRACT

The dissolution profile plays an important role in determining the efficacy and activity of the drug. The water-insoluble drug results in a low dissolution profile so that absorption becomes difficult and bioavailability is slow. The dissolution profile can be increased by improving the physicochemical properties through the formation of inclusion complexes (KI), which is an equilibrium between the drug as a guest molecule and the complexer as the host molecule. The aim of this literature study was to discuss an effective KI method to increase dissolution using a cyclodectrin (CD) complex and its derivatives. The method used was to conduct a literature study on 22 international journal articles discussing the increase in KI dissolution of water-insoluble drugs. Based on the results of this literature study, the data showed that KI of water-insoluble drugs increased the dissolution profile up to 60 folds using spray drying; 47.1 folds using physical mixing; 30 folds using freeze drying; 26 folds on kneading; 10 folds using the evaporating solvent; 8.87 folds using co-precipitation; 4.76 folds using co-evaporation; 1.13 folds using co-grinding. The increase in the dissolution profile of the drug was also influenced by the complexers where the increase in the dissolution profile of KI using Citrate-β-CD complex increased 60 times, HP-β-CD increased 30 times, β-CD increased 27.1 times, RM-β-CD increased 26 times, and SBE7-β-CD increased 1.26 times. Based on these studies, it was concluded that spray drying with citrate-β-CD complexing increased the dissolution profile of the most high drugs compared to other methods and complexers.

Key words: *Cyclodectrin, dissolution, inclusion complex, method, complexer.*

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DAFTAR LAMPIRAN

Lampiran Halaman

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