

INTISARI

SAPUTRA, S.,A., 2016, FORMULASI ORALLY DISINTEGRATING TABLET SALBUTAMOL SULFAT MENGGUNAKAN PENGISI *F-MELT*, PEMANIS *XYLITOL* DAN *SUPERDISINTEGRANTS* SISTEM *EFFERVESCENT*. THESIS FAKULTAS FARMASI UNVERSTAS SETIA BUDI, SURAKARTA.

Salbutamol sulfat merupakan bronkodilator dalam pengobatan asma, yang bekerja selektif terhadap reseptor β_2 adrenergik. Formulasi *orally disintegrating tablet* salbutamol sulfat dapat meningkatkan bioavaibilitas obat. Penelitian ini bertujuan mengoptimasi dan mengevaluasi pengaruh *F-Melt*, *xylitol* dan *effervescent* terhadap waktu pembasahan, kekerasan, kerapuhan, waktu hancur dan obat yang terdisolusi pada menit ke 5 terhadap *orally disintegrating tablet* salbutamol sulfat.

Metode *simplex lattice design* diaplikasikan untuk mengoptimasi *orally disintegrating tablet* salbutamol sulfat. Menggunakan variabel *F-Melt*, *xylitol* dan *effervescent* sebagai variabel bebas. Daerah optimum ditentukan *superimposed countour plot* dari kekerasan, waktu pembasahan, kerapuhan dan obat yang terdisolusi pada menit ke 5 menggunakan *software Design Expert*.

Hasil menunjukkan variabel *F-Melt* dapat memperlama waktu pembasahan, meningkatkan kekerasan tablet, menurunkan kerapuhan tablet dan mempercepat waktu hancur. *Xylitol* memberikan pengaruh menurunkan waktu pembasahan, meningkatkan kekerasan tablet, menurunkan kerapuhan, memperlama waktu hancur dan menurunkan waktu disolusi. *Effervescent* mempengaruhi peningkatkan waktu pembasahan, menurunkan kekerasan tablet, menurunkan kerapuhan, mempercepat waktu hancur dan mempercepat disolusi. Interaksi *F-Melt* dan *xylitol* menurunkan waktu pembasahan, mempercepat waktu hancur dan meningkatkan kualitas tekstur dan rasa. Interaksi *xylitol* dan *effervescent* mempercepat waktu pembasahan, menurunkan kekerasan, mempercepat waktu hancur. Formula optimum yang didapat dengan kombinasi komposisi *F-Melt* 146,00 mg, *xylitol* 35,33 mg dan sistem *effervescent* 13,65 mg.

Kata kunci: *F-Melt*, *xylitol*, *effervescent*, *orally disintegrating tablet* salbutamol sulfat.

ABSTRACT

SAPUTRA, S.,A., 2016, ORALLY DISINTEGRATING TABLET FORMULATION OF SALBUTAMOL SULPHATE USING FILLERS F-MELT, XYLITOL SWEETENERS AND SUPERDISINTEGRANT EFFERVESCENT SYSTEM. POST GRADUATE THESIS. FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY.

Salbutamol sulphate is a bronchodilator in the for asthma medication, which works selectively on the β_2 adrenergic receptor. Orally disintegrating tablet formulation of salbutamol sulphate may improve the bioavailability of drugs. This research aims at optimizing and evaluating the effect of F-Melt, xylitol and effervescent with the wetting time, the tablet hardness, the friability, disintegration time and drug release in the fif minute of Orally Disintegrating tablets salbutamol sulphate.

The simplex lattice design was applied to optimize Orally Disintegrating tablets salbutamol sulphate. Using variable F-Melt, xylitol and effervescent as independent variables. The countour determined the optimum area superimposed countour plot of hardness, wetting time, friability and drug were dissolved in 5 minutes using the Design Expert software.

Results showed variable F-Melt may increase the duration of tablet wetness, tablet hardness, tablet friability and accelerate the disintegration time. Xylitol gaves effect to increase the wetting time, and the tablet hardness, reduce the friability, disintegration time and drug release. Effervescent affected and the improvement of wetting time, reduced tablet hardness, and the friability, disintegration time but accelerate speeding up the drug release. Interaction F-Melt and xylitol reduced wetting time, and accelerated the disintegration time and improved the quality of textures and flavors. Interaction xylitol and effervescent accelerated wetting time, reduced the friability, accelerated the disintegration time. The optimum formula obtained by a combination of F-Melt composition of 146.00 mg, 35.33 mg of xylitol and 13.65 mg effervescent system.

Keywords: F-Melt, xylitol, effervescent, Orally Disintegrating tablets salbutamol sulphate