ABSTRAK

PANGGIH TRI ATMOJO, 2023, OPTIMASI FORMULA *FAST DISINTEGRANT* TABLET LORATADIN KOMBINASI *CROSPOVIDONE* & *CROSCARMELLOSE* SEBAGAI *SUPERDISINTEGRANT* DENGAN METODE *SIMPLEX LATTICE DESIGN*. SKRIPSI, PROGRAM STUDI S1 FARMASI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA. Dibimbing oleh Dr. apt. Ilham Kuncahyo, M.Sc. dan apt. Fitri Kurniasari, M.Farm

Loratadin merupakan zat aktif yang digunakan sebagai obat antihistamin. Loratadin yang umum tersedia dipasaran dalam bentuk tablet konvensional yang dapat menjadi hambatan tersendiri pada pasien dengan kondisi tertentu seperti kebutuhan mendesak saat terjadinya alergi dengan keluhan difagia atau kesulitan menelan, sehingga peneliti ingin membuat sediaan tablet dengan distribusi *fast disintegrant tablet* atau tablet FDT. Pengaruh *superdisintegrant* yang tunggal terhadap disintegrasi tablet pada beberapa penelitian sebelumnya masih belum optimal terhadap jumlah persentase yang dipakai. Penelitian ini bertujuan untuk mengetahui pengaruh *crospovidone* dan *croscarmellose* terhadap mutu fisik tablet loratadine diantaranya kekerasan, kerapuhan, waktu hancur *in-vivo,* waktu pembasahan, dan disolusi.

Penelitian ini dilakukan menggunakan metode kempa langsung dengan model *design expert simplex lattice design* yang menghasilkan 8 formula *run trial & error.* Tablet yang dihasilkan dari 8 formula tersebut diuji dan dicatat hasil pengujiannya yang dilanjutkan dengan analisis data mutu fisik tablet tersebut. Setelah data telah di analisis oleh *software* kemudian di dapatkan formula optimum tablet FDT loratadin.

Hasil penelitian ini memberikan formula optimum yang telah di optimasi dari *simplex lattice design* dengan penggunaan *crospovidone* 5,334 mg dan *croscarmellose* 4,666 mg dengan proporsi 2,667% dan 2,333% penggunaan *superdisintegrant* yang dikombinasi untuk tablet FDT loratadin 200mg.

Keyword : Optimasi, Simplex lattice design, Crospovidone, Croscarmellose, Fast disintegrant tablet

ABSTRACT

PANGGIH TRI ATMOJO, 2023, OPTIMIZATION OF FAST DISINTEGRANT FORMULA OF LORATADINE TABLETS WITH COMBINATION OF CROSPOVIDONE & CROSCARMELLOSE AS SUPERDISINTEGRANT BY SIMPLEX LATTICE DESIGN METHOD. THESIS, BACHELOR OF PHARMACY PROGRAM, FACULTY OF PHARMACY, UNIVERSITY OF SETIA BUDI, SURAKARTA. Supervised by Dr. apt. Ilham Kuncahyo, M.Sc. and apt. Fitri Kurniasari, M.Farm

Loratadin is an active substance used as an antihistamine drug. Loratadin is commonly available in the market in the form of conventional tablets which can be a barrier in patients with certain conditions such as urgent needs when allergies occur with complaints of dysphagia or difficulty swallowing, so researchers want to make tablet preparations with the distribution of fast disintegrant tablets or FDT tablets. The effect of a single superdisintegrant on tablet disintegration in several previous studies was still not optimal for the percentage used. This study aims to determine the effect of crospovidone and croscarmellose on the physical quality of loratadine tablets including hardness, friability, in-vivo disintegration time, wetting time, and dissolution.

This research was conducted using the direct felting method with a design expert simplex lattice design model that produced 8 trial & error run formulas. Tablets produced from the 8 formulas were tested and recorded the test results followed by data analysis of the physical quality of the tablets. After the data has been analyzed by the software, the optimum formula of FDT loratadine tablets is obtained.

The results of this study provide an optimum formula that has been optimized from simplex lattice design with the use of crospovidone 5.334 mg and croscarmellose 4.666 mg with a proportion of 2.667% and 2.333% use of superdisintegrant combined for FDT loratadine 200mg tablets.

Keywords: Optimization, Simplex lattice design, Crospovidone, Croscarmellose, Fast disintegrant tablet.