

INTISARI

FARICHA, 2022, FORMULASI DAN UJI MUTU FISIK TABLET PITAVASTATIN MENGGUNAKAN VARIASI AVICEL PH 102 DAN LAKTOSA YANG DIBUAT DENGAN METODE KEMPA LANGSUNG, PROPOSAL SKRIPSI, PROGRAM STUDI S1 FARMASI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA. Dibimbing oleh Dr. apt. Ilham Kuncahyo, M. Sc. dan apt. Muhammad Dzakwan, M.Si.

Pitavastatin adalah salah satu obat anti-kolesterol yang cara kerjanya dengan menghambat pembentukan kolesterol oleh enzim 3-hidroksi 3-metilglutaril koenzim A (HMG-CoA) reduktase. Penelitian ini bertujuan untuk mengetahui pengaruh variasi konsentrasi avicel PH 102 sebagai *filler-binders* dan laktosa terhadap mutu fisik tablet yang dibuat secara kempa langsung dan untuk mengetahui formula mana yang memberikan mutu fisik yang baik dan disolusi yang paling besar. Penggunaan laktosa dan avicel PH 102 sebagai *filler-binders* dapat meningkatkan daya alir dan kompaktibilitas massa tablet.

Penelitian ini dibuat tiga formula menggunakan komposisi laktosa dan avicel PH 102 sebagai *filler-binders* dengan perbandingan formula 1 (44 % : 50%), formula 2 (39% : 55%), formula 3 (34% : 60%) . Karakterisasi uji meliputi uji keseragaman ukuran tablet, uji keseragaman bobot tablet, uji keseragaman kandungan tablet, uji kekerasan tablet, uji kerapuhan tablet, uji waktu hancur, dan uji disolusi. Hasil uji dianalisa menggunakan metode analisis varian *One Way Anova* dengan taraf kepercayaan 95% menggunakan program SPSS.

Hasil penelitian menunjukkan bahwa variasi konsentrasi 3 formula tablet pitavastatin menghasilkan mutu fisik tablet yang baik. Laktosa dan avicel PH 102 berpengaruh terhadap kompaktibilitas tablet ,kerapuhan tablet ,waktu hancur, dan disolusi. Proporsi laktosa 44% (88 mg) dan avicel PH 102 50% (100 mg) menghasilkan formula tablet pitavastatin dengan mutu fisik tablet paling baik dan disolusi yang paling besar.

Kata kunci : Tablet pitavastatin, kempa langsung, avicel PH 102, laktosa, uji mutu fisik tablet

ABSTRACT

FARICHA, 2022, FORMULATION AND PHYSICAL QUALITY TEST OF PITAVASTATIN TABLETS USING AVICEL PH 102 AND LACTOSE VARIATIONS MADE BY THE DIRECT COMPRESSING METHOD, THESIS PROPOSAL, STUDY PROGRAM OF PHARMACEUTICAL STUDY, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY, SURAKARTA. Supervised by Dr. apt. Ilham Kuncahyo, M.Sc. and apt. Muhammad Dzakwan, M.Sc.

Pitavastatin is an anti-cholesterol drug that works by inhibiting the formation of cholesterol by the enzyme 3-hydroxy 3-methylglutaryl coenzyme A (HMG-CoA) reductase. This study aims to determine the effect of varying concentrations of avicel PH 102 as filler-binder and lactose *s* on the physical quality of tablets made by direct compression and to determine which formula provides the best physical quality and the greatest dissolution. The use of lactose and avicel PH 102 as filler binders can increase the flowability and compactibility of the tablet mass

This research was made of three formulas using the composition of lactose and avicel PH 102 as filler-binders with a ratio of formula 1 (44%: 50%), formula 2 (39%: 55%), and formula 3 (34%: 60%). Test characterization included tablet size uniformity test, tablet weight uniformity test, tablet content uniformity test, tablet hardness test, tablet friability test, disintegration time test, and dissolution test. The test results were analyzed using the Way ANOVA analysis method of variance with a 95% confidence level using the SPSS program.

The results showed that variations in the concentration of the 3 pitavastatin tablet formulas produced a good physical quality of the tablets. Lactose and avicel PH 102 affect tablet compatibility, tablet fragility, disintegration time, and dissolution. The proportion of lactose was 44% (88 mg) and avicel PH 102 50% (100 mg) resulting in a pitavastatin tablet formula with the best physical tablet quality and the greatest dissolution.

Keywords: Pitavastatin tablets, direct compression, avicel PH 102, lactose, tablet physical quality test