INTISARI

IKHSAN, MUKSALMINA. 2019. FORMULASI DAN EVALUASI FISIK SEDIAAN *FAST DISINTEGRATING TABLET* AMLODIPIN BESILAT MENGGUNAKAN KOMBINASI *CROSSPOVIDONE* DAN *CROSCARMELLOSE SODIUM* SEBAGAI *SUPERDISINTEGRANT*. SKRIPSI. FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI. SURAKARTA.

Amlodipin besilat termasuk obat *Biopharmaceutical Classsification System* (BCS) kelas I. Rasa yang pahit serta penggunaan kurang nyaman saat dikonsumsi pasien geriatri merupakan kelemahan amlodipin besilat tablet konvensional, sehingga diformulasikan menjadi *Fast Disintegrating Tablet* (FDT). FDT amlodipin besilat menggunakan *superdisintegrant* kombinasi *crosspovidone* dan *croscarmellose sodium* agar tablet hancur di mulut. Penelitian ini bertujuan mengetahui pengaruh kombinasi *crospovidone* dan *croscarmellose sodium* terhadap sifat fisik FDT amlodipin besilat, dan mengetahui konsentrasi kombinasi *crospovidone* dan *croscarmellose sodium* yang paling baik terhadap sifat fisik FDT amlodipin besilat.

FDT amlodipin besilat dibuat secara kempa langsung dengan menentukan lima formula konsentrasi kombinasi *crospovidone* dan *croscarmellose sodium* yaitu formula 1 (100%:0%), formula 2 (75%:25%), formula 3 (50%:50%), formula 4 (25%:75%), formula 5 (0%:100%). FDT amlodipin besilat diuji mutu fisiknya yaitu, keseragaman kandungan, kekerasan, kerapuhan, waktu pembasahan, waktu disintegrasi, tanggap rasa. Hasil pengujian mutu fisik dianalisis menggunakan *software* SPSS versi 23.

Kombinasi *crospovidone* dan *croscarmellose sodium* menghasilkan kekerasan paling baik 4,60 kg dengan kerapuhan 0,11% pada formula 2, dan tidak memberikan perbedaan bermakna di setiap formula pada parameter keseragaman kandungan dan tanggap rasa. Formula 3 dengan konsentrasi kombinasi *crospovidone* dan *croscarmellose sodium* (50%:50%) merupakan formula terbaik dengan waktu pembasahan tercepat yaitu 9 detik, waktu disintegrasi *in vitro* tercepat 21 detik dan disintegrasi *in vivo* tercepat 23 detik.

Kata kunci: FDT, amlodipin besilat, *crospovidone, croscarmellose sodium*

ABSTRACT

IKHSAN, MUKSALMINA. 2019. FORMULATION AND PHYSICAL EVALUATION OF FAST DISINTEGRATING TABLET AMLODIPINE BESYLATE USING COMBINATION CROSSPOVIDONE AND CROSCARMELLOSE SODIUM AS A SUPERDISINTEGRANT. SKRIPSI. FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI. SURAKARTA.

Amlodipine besylate is Biopharmaceutical Classsification System (BCS) class I. Bitter taste and uncomfortable feel when consumed by geriatric patients is weakness of conventional tablet amlodipine besylate, so it is formulated into Fast Disintegrating Tablet (FDT). FDT amlodipine besylate uses combination of superdisintegrant of crosspovidone and croscarmellose sodium to make tablets crush in mouth. Purpose of this study was to determine effect of combination of crospovidone and croscarmellose sodium on physical properties and to determine the best concentration of combinations crospovidone and croscarmellose sodium on the physical properties of FDT amlodipine besylate.

FDT amlodipine besylate was made by direct compression by determining five formulas concentrations of combination of crospovidone and croscarmellose sodium namely formula 1 (100%: 0%), formula 2 (75%: 25%), formula 3 (50%: 50%), formula 4 (25%: 75%), formula 5 (0%: 100%). FDT amlodipine besylate then tested its physical quality namely, uniformity of content, hardness, friability, wetting time, disintegration time, taste responsiveness. Resultss of physical quality were analyzed using SPSS software version 23.

Combination of crospovidone and croscarmellose sodium results the best hardness of 4.60 kg with 0.11% friability in formula 2, and does not make a significant difference in each formula on uniformity of content and taste responsiveness. Formula 3 with the combination concentration of crospovidone and croscarmellose sodium (50%:50%) is the best formula with the fastest wetting time of 9 seconds, the fastest in vitro disintegration time of 21 seconds and the fastest in vivo disintegration of 23 seconds.

Keyword: FDT, amlodipine besylate, *crospovidone, croscarmellose sodium*