

INTISARI

Penelitian ini bertujuan untuk mengetahui perbandingan antara Avicel dan Emcompress yang sesuai untuk pembuatan tablet ekstrak daun jarongan secara kempa langsung.

Penelitian ini termasuk eksperimental murni dengan rancangan acak pola satu arah dan dimulai dengan melakukan pembuatan ekstrak kental daun jarongan (*Stachytarpheta indica* Vahl). Ekstrak daun jarongan diperoleh dari hasil ekstraksi secara perkolasi menggunakan etanol 70%. Perkolat dipekatkan dengan *vacuum evaporator* dan didapat ekstrak kental. Ekstrak kental dikeringkan dengan aerosil. Setelah itu, ekstrak kering dicampur dengan bahan tambahan lain, diuji waktu alirnya dan dicetak pada tekanan yang sama, dengan metoda kempa langsung menggunakan mesin tablet *single punch*. Dalam penelitian ini, dibuat 5 formula tablet menggunakan bahan pengisi campuran antara Avicel dan Emcompress dengan perbandingan tertentu, yaitu Formula I (FI, 90%:10%), Formula II (FII, 80%:20%), Formula III (FIII, 70%:30%), Formula IV (FIV, 60%:40%) dan Formula V (FV, 50%:50%). Tablet yang diperoleh diuji sifat-sifat fisik serta stabilitasnya secara kimia dan setelah penyimpanan. Hasil uji sifat fisik dianalisa secara statistik dengan analisis varian satu jalan. Pada perbedaan yang bermakna dilakukannya uji "Scheffe" dengan syarat kepercayaan 95%. Setelah itu, dibandingkan dengan teori yang ada.

Pada uji keseragaman bobot, semua formula memenuhi persyaratan. Secara teori FI dan FIII memenuhi persyaratan keseragaman ukuran sedangkan FII, FIV dan FV tidak memenuhi persyaratan. Namun secara visual tidak ada perbedaan yang teramati pada ke-5 formula. Kekerasan terbesar dimiliki oleh tablet FI, FII, FIII, FIV dan FV. Tablet yang memiliki nilai kerapuhan paling tinggi adalah tablet FIV diikuti tablet FII, FIII, FV dan FI. Pada uji waktu hancur, waktu hancur tersingkat dimiliki oleh tablet FI diikuti FII, FIV, FIII dan FV. Dari uji stabilitas kimia menggunakan Kromatografi Lapis Tipis (KLT) diketahui bahwa ekstrak daun jarongan tidak mengalami perubahan selama proses pembuatan tablet, dan setelah 1 bulan penyimpanan dalam wadah plastik, gelas transparan, dan gelas berwarna gelap tidak diketahui adanya perubahan warna dan aroma pada tablet. Dari hasil yang diperoleh dapat diketahui kombinasi bahan pengisi antara Avicel sebanyak 50-90% dan Emcompress sebanyak 10-50% sesuai untuk pembuatan tablet ekstrak daun jarongan secara kempa langsung.

ABSTRACT

The aim of this research was to obtain good formulas between Avicel and Emcompress as filler in jarongan's leaves extracts tablet by direct compression method, which fulfills the tablet's physical characteristics.

This research was a pure experiment using random plan of complete one-way pattern. Jarongan's leaves extracts was resulted from an extraction process called percolation using 70% ethanol. Then, the percolates were concentrated by rotary vacuum evaporator. The result of this process was called extract concentrates. Extract concentrates were dried with aerosil. After that, the dried extracts were blended with other ingredients, tested its flowability characteristic and compressed on the same pressure by direct compression method with singled punch machine. Five formulas were made in this research. They consisted of the same filler binders (Avicel and Emcompress) which were blended with different ratio i.e. Formula I (FI, 90%:10%), Formula II (FII, 80%:20%), Formula III (FIII, 70%:30%), Formula IV (FIV, 60%:40%) and Formula V (FV, 50%:50%). Physical tests were performed on tablets each formula. The results were analyzed statistically by one-way ANOVA analysis. The Scheffe test at confidential level of 0,05 was done on any observed significant differences. Afterwards, the results were compared with the theory.

All formulas fulfill the characteristics of uniformity weight test. The uniformity measure test showed that only FI and FIII which theoretically fulfilled the characteristic whereas visually there were no differences between those formulas. Hardness test exhibited FI had the best strength followed by FII, FIII, FIV and FV. In friability test, FIV had the biggest friability followed by FII, FIII, FV, and FI. Disintegration test revealed that FI had the shortest time followed by FII, FIV, FIII and FV. From the chemical stability by Thin Layer Chromatography (TLC) showed that jarongan's leaves extracts tablet were stable during the preparation of tablet. After storage in a plastic, transparent glass, and dark glass container known that tablets had no changes in smell and color. From the present experimental, it could be concluded that combination between 50-90% Avicel and 10-50% Emcompress can be used in the preparation of tablets contain jarongan's leaves extracts by direct compression method.