ABSTRAK

Peracikan merupakan proses pencampuran bahan aktif untuk menghasilkan sediaan yang sesuai kebutuhan terapi pasien. Penelitian ini obat racikan kombinasi parasetamol dan amitriptilin dibuat dalam bentuk kapsul. Tablet parasetamol dan tablet amitriptilin dibuat menjadi serbuk menggunakan *pulverizer*. Parasetamol dan amitriptilin dikombinasikan karena memiliki mekanisme kerja yang berbeda namun saling melengkapi pada jalur nyeri perifer dan sentral. Penelitian ini bertujuan untuk mengetahui pengaruh durasi peracikan terhadap homogenitas sediaan kapsul kombinasi parasetamol dan amitriptilin. Jenis penelitian yang digunakan adalah eksperimental murni dengan variasi waktu penggerusan menggunakan *pulverizer* selama 30, 60, 90, dan 120 detik. Pengujian meliputi uji organoleptik, kadar lembab, dan analisis kadar zat aktif menggunakan metode kemometrika *Partial Least Square (PLS)* berbasis spektrofotometer UV-Vis.

Hasil uji organoleptik menunjukkan seluruh sampel berwarna putih, tidak berbau, dan serbuk menjadi semakin halus seiring bertambahnya durasi penggerusan. Nilai *moisture content* pada durasi 30, 60, 90, dan 120 detik berturut-turut sebesar 3,962%; 4,618%; 3,433%; dan 3,879%, sehingga seluruh sampel memenuhi persyaratan kadar lembap (<5%). Nilai *coefficient of variation (CV)* berturut-turut sebesar 0,7689%; 0,6370%; 0,5194%; dan 0,4677%, yang menunjukkan bahwa seluruh sediaan memenuhi persyaratan homogenitas (CV <5%). Durasi penggerusan 120 detik menghasilkan nilai CV paling rendah sehingga memberikan homogenitas terbaik secara deskriptif. Namun, hasil uji *One-Way ANOVA* menunjukkan nilai signifikansi sebesar 0,407 ($p > 0,05$), sehingga variasi durasi peracikan menggunakan pulverizer tidak memberikan pengaruh yang signifikan terhadap homogenitas sediaan kapsul kombinasi parasetamol dan amitriptilin.

Kata Kunci : peracikan, kapsul, homogenitas, parasetamol, amitriptilin.

ABSTRACT

Compounding is a process of mixing active ingredients to produce dosage forms that meet the therapeutic needs of patients, and in this study, a compounded combination of paracetamol and amitriptyline was prepared in capsule form. Paracetamol and amitriptyline tablets were pulverized into powder using a pulverizer, combining them due to their different yet complementary mechanisms of action on peripheral and central pain pathways. This study aims to determine the effect of compounding duration on the homogeneity of the compounded capsules containing paracetamol and amitriptyline. This true experimental study utilized variations in grinding duration using a pulverizer for 30, 60, 90, and 120 seconds. The evaluations included organoleptic tests, moisture content, and active ingredient content analysis using the Partial Least Square (PLS) chemometric method based on UV-Vis spectrophotometry.

The organoleptic evaluation showed that all samples were white, odorless, and became finer as the grinding duration increased. The moisture content values at grinding durations of 30, 60, 90, and 120 seconds were 3.962%, 4.618%, 3.433%, and 3.879%, respectively, all of which met the acceptable limit of less than 5%. The coefficient of variation (CV) values were 0.7689%, 0.6370%, 0.5194%, and 0.4677%, respectively, indicating that all capsule preparations fulfilled the homogeneity requirement (CV < 5%). The 120-second grinding duration produced the lowest CV value, indicating the best homogeneity descriptively. However, the One-Way ANOVA results showed no statistically significant difference among the grinding durations ($p = 0.407$), indicating that variations in grinding duration using a pulverizer did not significantly affect the homogeneity of compounded capsules containing paracetamol and amitriptyline.

Keywords: compounding, capsules, homogeneity, paracetamol, amitriptyline.