ABSTRAK

Peracikan obat merupakan proses pencampuran bahan obat untuk memenuhi kebutuhan individual pasien, salah satunya dalam bentuk kapsul. Penggunaan *pulverizer* dinilai lebih efisien, namun variasi jumlah racikan diduga dapat mempengaruhi homogenitas campuran. Penelitian ini bertujuan untuk mengetahui pengaruh variasi jumlah peracikan terhadap homogenitas campuran kombinasi parasetamol dan amitriptilin dalam sediaan kapsul. Penelitian eksperimental murni ini menggunakan variasi jumlah peracikan 10, 30, 60, dan 90 kapsul dengan waktu pencampuran 60 detik menggunakan *pulverizer*. Homogenitas ditentukan melalui penetapan kadar menggunakan spektrofotometri UV-Vis yang dikombinasikan dengan kemometrika *Partial Least Square* (PLS) dan dinilai berdasarkan nilai *Coefficient of Variation* (CV). Seluruh variasi jumlah peracikan memenuhi persyaratan homogenitas dengan nilai CV berturut-turut sebesar 0,4091%; 0,3313%; 0,2660%; dan 0,1926%. Hasil uji *Kruskal–Wallis* menunjukkan bahwa variasi jumlah peracikan 10 hingga 90 kapsul tidak memberikan pengaruh yang signifikan terhadap homogenitas campuran (p = 0,679). Meskipun demikian, secara deskriptif variasi jumlah peracikan 90 kapsul menghasilkan nilai CV paling rendah, yaitu 0,1926%, dibandingkan variasi lainnya.

Kata kunci: homogenitas, kapsul racikan, parasetamol, amitriptilin, *Partial Least Square*

ABSTRACT

Compounding is the process of mixing pharmaceutical ingredients to meet individual patient needs, one of the most common dosage forms being capsules. The use of a pulverizer is considered more efficient; however, variations in batch size are presumed to affect the homogeneity of the mixture. This study aimed to determine the effect of batch size variation on the homogeneity of compounded capsules containing paracetamol and amitriptyline. This study employed a true experimental design used four batch size variations of 10, 30, 60, and 90 capsules, with a mixing time of 60 seconds using a pulverizer. Homogeneity was evaluated by drug content determination using UV-Vis spectrophotometry combined with the Partial Least Squares (PLS) chemometric method and assessed based on the Coefficient of Variation (CV). All batch size variations met the homogeneity requirement, with CV values of 0.4091%, 0.3313%, 0.2660%, and 0.1926%, respectively. The Kruskal–Wallis test showed that batch size variations ranging from 10 to 90 capsules did not have a statistically significant effect on the homogeneity of the mixture ($p = 0.679$). Nevertheless, descriptively, the 90-capsule batch size produced the lowest CV value (0.1926%) among all variations.

Keywords: *homogeneity, compounded capsules, paracetamol, amitriptyline, Partial Least Square*