ABSTRAK

Ketoprofen merupakan obat antiinflamasi nonsteroid (AINS) dengan kelarutan rendah yang termasuk *Biopharmaceutical Classification System* (BCS) kelas II. Penelitian ini bertujuan mengetahui pengaruh variasi perbandingan PVP K-30 dan HPMC terhadap parameter disolusi ketoprofen menggunakan metode *solvent evaporation*. Dispersi padat dibuat dengan mencampurkan ketoprofen, PVP K-30, dan HPMC dengan perbandingan PVP K-30 dan HPMC berturut-turut adalah 2:6; 4:4; 6:2 (b/b) menggunakan etanol 96% sebagai pelarut utama. Uji disolusi kapsul dispersi padat dan campuran fisik dilakukan dengan alat disolusi tipe I dan medium dapar fosfat pH 6,8. Pengambilan sampel dilakukan pada interval waktu 5, 10, 15, 30, 45, 60, 90, dan 120 menit. Hasil dari uji disolusi dianalisis kadarnya menggunakan spektrofotometer UV-Vis. Selanjutnya analisis data dilakukan secara statistik menggunakan aplikasi SPSS pada taraf kepercayaan 95%, hasil dinyatakan berbeda signifikan bila $p<0,05$. Hasil analisis statistik uji *Independent Sample T-Test* menunjukkan bahwa dispersi padat berbeda signifikan dibandingkan campuran fisik pada formula 3 dengan perbandingan PVP K-30: HPMC sebesar 6:2 (b/b). Sementara itu, hasil analisis uji *one way ANOVA* menunjukkan bahwa variasi formula dispersi padat memberikan pengaruh yang signifikan terhadap parameter disolusi ketoprofen, dengan kemampuan disolusi dari tertinggi ke terendah adalah formula 3, formula 1, dan formula 2 berdasarkan hasil uji *post hoc Tukey*.

Kata kunci : ketoprofen, dispersi padat, PVP K-30, HPMC, disolusi, *solvent evaporation*

ABSTRACT

Ketoprofen is a nonsteroidal anti-inflammatory drug (NSAID) with low solubility classified as a Class II of the Biopharmaceutical Classification System (BCS). This study aimed to determine the effect of varying rations of PVP K-30 and HPMC on the dissolution parameters of ketoprofen using the solvent evaporation method. Solid dispersion were prepared by mixing ketoprofen, PVP K 30, and HPMC with PVP K-30 to HPMC rations of 2:6; 4:4; and 6:2 (w/w), using 96% ethanol as the primary solvent. Solvent evaporation was performed on a water bath in porcelain dishes. Dissolution testing of the solid dispersion capsules and physical mixtures was conducted using a Type I in a phosphate buffer at pH 6,8. Samples was collected at time intervals of 5, 10, 15, 30, 45, 60, 90, and 120 minutes. The results of the dissolution tests were analyzed for concentration using a UV-Vis spectrophotometer. Subsequently, data analysis was perfomed statistically using SPSS software at a 95% confidence level; results were considered significatly different if p < 0,05. The Independent Sample T-Test showed that solid dispersion formula 3 with PVP K-30: HPMC rasio of 6:2 (w/w) exhibited a siignificant difference compared with its physicla mixture. Meanwhile, One-way ANOVA demonstated that variations in solid dispersion formulations signififcantly affected ketoprofen dissolution parameters, with dissolution rates ranging from highest to lowest : formulation 3, formulation 1, and formulation 2, based on the results of Tukey's post hoc test.

Keywords : *ketoprofen, solid dispersion, PVP K-30, HPMC, dissolution, solvent evaporation.*