ABSTRACT

THE EFFECT OF COMPARISON OF GLYCERYL MONOSTEARATE AND CAPRILIC ACID TO DICLOFENAC DIETHYLAMMONIUM IN NLC SYSTEM CHARACTERISTICS

Faddlun Nur Hidayati

The present study was determine characteristics of diclofenac diethylammonium NLC with ratio of glyceryl monostearate (GMS) and caprilic acid (mygliol 80) 65:35; 75:25 and 85:15. There were three formulas and the composition of each formula were diclofenac diethylammonium 1,16%; glyceryl monostearate and caprilic acid with ratio (65:35; 75:25 and 85:15); Tween 80 5%; and phospat buffer pH 6,0 ± 0,1 as dispersion medium. The result showed that each formula had different characteristic of particle size and efficiency entrapment. Particle size was analized by Delsa Nano^{TM}, first formula (65:35) had particle size 134,467 ± 26,601 nm with PI 11,776; second formula (75:25) had particle size 2252,233 ± 727,370 nm with PI 0,348; and third formula (85:15) had particle size 1500,867 ± 219,673 nm with PI 0,260. % Efficiency entrapment carried out by sentrifuge method and result of first formula was 88,342 ± 0,52%, second formula was 73,764 ± 0,511% and third formula was 70,754 ± 0,665%. The result was analyzed by statistic with ANOVA one way method with degree of confident 95% (α = 0,005). Reseach result revealed that the best characteristics of diclofenac diethylammonium in terms of particle size and % efficiency entrapment is first formula with ratio of GMS and mygliol 80 65:35.

Keyword : diclofenac diethylammonium, NLC, gliseril monostearate, caprilic acid, Tween 80, particle size, efficiency entrapment