ABSTRACT

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

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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™, 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). Research 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, glyceril monostearate, caprilic acid, Tween 80, particle size, efficiency entrapment