ABSTRACT

PENGARUH KONSENTRASI SETIL PALMITAT TERHADAP KARAKTERISTIK FISIK NANOSTRUCTURED LIPID CARRIERS (NLC) KOENZIM Q10.

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Coenzyme Q10, is a natural compound in the human body that is found in the inner mitochondrial membrane. This compound has a very important role in cells as an electron carrier in the respiratory cycle in mitochondria, therefore its role is very important in the formation of Adenosine Triphosphate. Nanostructured lipid carriers or NLC is a delivery system consisting of solid lipids and liquid lipids as the core matrix. This study was initiated by optimizing the Coenzyme Q10 Nanostructured Lipid Carrier (NLC) formula with varying concentrations of lipids at 6% cetyl palmitate, 8% cetyl palmitate, and 10% cetyl palmitate. Then the formulation of the preparation was carried out and then tested for physical characteristics to find out the most optimal concentration in the Nanostructured Lipid Carrier Coenzyme Q10 preparation. In the preparation design of Nanostructured Lipid Carrier coenzyme Q10 using 3 formulas with different variations of solid lipids (cetyl palmitate FI (6%), FII (8%), FII (10%) with 7% caprylic liquid lipid and each formula was observed using 3 replications. The best dispersion of the preparation is in F3 with the consistency of the preparation (semisolid). The increasing concentration of cetyl palmitate causes the preparation to become thicker, the resulting spreading power is smaller. Based on the results of this study, it can be concluded that the differences in solid lipids in nanostructured preparations Lipid Carrier (NLC) coenzyme Q10 did not affect the physical characteristics of the spreadability test parameters but did affect the pH test.

Keyword : Cethyl palmitate concentration, Physical characteristics of nanostructured lipids carriers