

## ABSTRACT

### ***EFFECT OF SOLID LIPID COMPOSITION ON PHYSICAL CHARACTERISTICS OF NANOSTRUCTURED LIPID CARRIER (NLC) KOENZIM Q10***

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*Aging is a biological process that cannot be avoided and is not a pathological condition, it is correlated with various skin and body pathologies, including disorders, degenerative, benign and malignant neoplasms. Coenzyme Q10, is a natural compound in the human body that is found in the inner membrane of the mitochondria. This compound has a very important role in the electron carrier in the mitochondrial respiratory cycle. This study aims to determine the solid lipids that produce good physical characteristics in nanostructured lipid carrier preparations. The results obtained in this study, for the organoleptic results obtained for F1 and F2 preparations were in the form of semisolid (cream), while for F3 preparations were in the form of semisolid (gel), the color results for F1 and F2 were yellow, while for F3 were orange. The results of the pH test using the Shapiro-wilk and Levene tests for F2 and F3 obtained sig values > 0,05, meaning well distributed, while for F1 < 0,05, which means not normally distributed, were for tasting using the Anova One-way method get a sig value < 0,05, which means that it is significantly different, where the pH value produced in the nanostructured lipid carrier preparation affects the physical characteristics of the preparations. The results of the dispersion test using the Shapiro-wilk and Levene test proved that all formulas were normally distributed because the sig value was > 0,05. While Anova One-way test results in a sig value < 0,05, which means that the resulting value of dispersion also affects the characteristics of the preparation. The conclusion, that the affect of physical characteristics of solid lipids in the preparation of nanostructured lipid carriers is influenced by the value of the pH test and dispersion test.*

**Keywords :** *Skin Aging, Coenzym Q10, Nanostructured Lipid Carrier, Palmitic Acid, Cetyl Palmitic, Myristic Acid, Caprylic.*