ABSTRACT

Ginkgo and candlenut oils have a high potential as active ingredients in hair care, but are easily degraded, requiring encapsulation strategies to improve their stability and effectiveness. This study aimed to evaluate the effect of the amount of coconut phospholipid liposomes in encapsulating ginkgo and candlenut oils on the characteristics of hair masks. Coconut phospholipids were isolated through maceration, partitioning, and evaporation, then used for liposome preparation using thin-layer, freeze-thawing, and sonication methods at $CCLBK_{0,5:1}$, $CCLBK_{1:1}$, and $CCLBK_{2:1}$ ratios. Characterization included encapsulation efficiency (turbidity). Application in hair masks was analyzed through homogeneity tests, spreadability tests, and organoleptic assessments. The results showed that the $CCLBK_{2:1}$ formulation had an encapsulation efficiency (turbidity) of 15,20 35,85% at a wavelength of 400–600 nm. A lower turbidity value indicates that more active ingredients have been trapped in the liposome system. The Creaming Index (CI) stability test showed that the $CCLBK_{2:1}$ formulation tended to be stable from day 5 to day 30. The liposome hair mask exhibited excellent homogeneity, with the highest spreadability of 6,55 g cm/s, and achieved the best organoleptic scores for aroma, texture, and viscosity. These findings demonstrate that coconut phospholipid liposomes are effective as a delivery system for natural active ingredients in hair care products.

Keywords: *Ginkgo oil, candlenut oil, liposomes, coconut phospholipids, hair mask, encapsulation*