

ABSTRACT

**Formula Optimization of Emulgel Virgin Coconut Oil Kopyor Coconut
(*Cocos nucifera L.*) and Antibacterial Activity Test on
Propionibacterium acnes ATCC 11827**

Deavisca Rezania

Kopyor coconut is a coconut that has fruit flesh apart from its shell. Kopyor coconut has high lauric acid content in the flesh. Besides, kopyor coconut contains vitamin c and α -tocopherol as antioxidants. Kopyor coconut has high lauric acid content in the flesh. Based on research, lauric acid can fight *Propionibacterium acnes* bacteria more than benzoyl peroxide. To increase its acceptability as an anti-acne, VCO of kopyor coconut was made become emulgel. VCO concentration as the active ingredient used based on the MIC test is 20% and 30%. While the gelling agent chosen was Carbopol 940 with a concentration of 1% and 2%. The emulgel then undergoes test of physic characterization such as viscosity, pH, spreadability, particle size, particle size distribution, and zeta potensial. The emulgel was also tested for antibacterial activity against *Propionibacterium acnes*. Stability tests using method of thermal cycling with a temperature of 40°C and 4 °C respectively for 24 hours for 3 cycles. Through this test, the chosen formula was formula 4, that has good zeta potential, suitable with skin pH, has a good particle size and particle size distribution and has inhibitory effect on P.acnes bacteria.

Keyword : Virgin Coconut Oil, Kopyor Coconut, Carbopol 940, antibacterial, *Propionibacterium acnes*.