

**FORMULASI SEDIAAN MIKROEMULSI MINYAK KEMIRI  
(*Aleurites moluccana* L.), MIKROEMULSI VCO (Virgin Coconut Oil)  
SERTA KOMBINASI KEDUANYA SEBAGAI PENYUBUR RAMBUT  
TERHADAP TIKUS PUTIH JANTAN GALUR WISTAR**

**ABSTRAK**

**RUDY KOMAR**

Email: [rudy\\_komar@yahoo.com](mailto:rudy_komar@yahoo.com)

Minyak kemiri (*Aleurites moluccana* L.) dan VCO (*Virgin Coconut Oil*) keduanya diketahui memiliki aktivitas sebagai penumbuh rambut. Penelitian ini bertujuan untuk mendapatkan sediaan mikroemulsi minyak kemiri, VCO serta kombinasi keduanya yang stabil dan memiliki aktivitas sebagai penumbuh rambut. Penelitian diawali dengan karakterisasi minyak kemiri dan VCO untuk memastikan mutu dan kemurniannya meliputi pengujian warna, bobot jenis, bilangan penyabunan, bilangan asam, bilangan iod, asam lemak bebas, kadar air dan indeks bias. Tahap selanjutnya adalah formulasi sediaan mikroemulsi yang mengandung minyak kemiri 6% (Formula A), VCO 8% (Formula B) dan kombinasi minyak kemiri 3% dan VCO 4% (Formula C) dengan surfaktan Tween 80 35% dan kosurfaktan Gliserin 30%. Sediaan yang diperoleh kemudian diuji stabilitas fisiknya dengan metode *freeze-thaw*, sentrifugasi dan stabilitas dipercepat. Sediaan dengan stabilitas terbaik selanjutnya digunakan untuk uji aktivitas pertumbuhan panjang rambut serta kelebatan rambut dibandingkan dengan minyak tanpa diformulasi. Minyak kemiri dan VCO yang digunakan memiliki karakteristik sesuai dengan standar mutu kecuali bilangan asam, bilangan penyabunan dan bilangan iod. Semua formula mikroemulsi memiliki stabilitas fisik yang baik berdasarkan uji *freeze-thaw*, sentrifugasi dan uji stabilitas pada penyimpanan di suhu 40°C selama 28 hari. Hasil uji aktivitas pertumbuhan panjang rambut serta kelebatan rambut terhadap tikus putih jantan galur Wistar menunjukkan adanya perbedaan bermakna antar sediaan mikroemulsi dan minyak tanpa diformulasi berdasarkan analisis statistik dengan metode Anova *one-way*.

**Kata kunci:** Minyak kemiri, VCO, sediaan mikroemulsi, pertumbuhan rambut.

**The Preparation of Microemulsion Formulations of Candlenut Oil  
(*Aleurites moluccana* L.), VCO Microemulsion (*Virgin Coconut Oil*) and The  
Combination of Both as Hair Fertilizer Towards White Rats Male Strain  
Wistar**

**ABSTRACT**

**RUDY KOMAR**

Email: [rudy\\_komar@yahoo.com](mailto:rudy_komar@yahoo.com)

Candlenut oil (*Aleurites moluccana* L.) and VCO (*Virgin Coconut Oil*) are both known to have activities as hair grower. The objective of the research was to obtain a microemulsion preparation of candlenut oil, VCO and a combination of both which were stable and has activities as hair grower. Research was begun by characterization of candlenut oil and VCO to ensure the quality and purity that consist of color, specific gravity, alkaline number, acidity number, iod number, free fatty acids, water content and refractive index. The next stage was the preparation of microemulsion formulations which contains of 6% candlenut oil (Formula A), 8% VCO (Formula B), and the combination of 3% candlenut oil and 4% VCO (Formula C) with 35% Tween 80 and 30% Glycerine as cosurfactan. The preparations which were obtained then tested for their physical stability by freeze-thaw method, centrifugation, and accelerated stability tests. The preparation with the best stability was further used to be tested on its activity for the growth of hair length and hair cover compared to unformulated oil. Candlenut oil and VCO that was used has the characteristics in conformity with quality standards accept for acid number, alkaline number and iod numbers. All microemulsion formulas have a good physical stability based on freeze-thaw, centrifugation and accelerated stability tests at temperature of 40°C for 28 days of storage. The result for activity test of hair length growing and hair thickness growing activity towards white rats male strain wistar showed significant differences between the microemulsion preparation and unformulated oil based on statistical analysis by Anova *one-way* method.

**Keywords:** Candlenut oil, VCO, microemulsion preparation, hair growth