FORMULASI DAN EVALUASI EMULSI MINYAK SAWIT MERAH UNTUK APLIKASI NUTRASEUTIKAL

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ABSTRAK

Penelitian ini bertujuan untuk merumuskan dan mengevaluasi stabilitas fisik sediaan emulsi berbasis minyak sawit merah sebagai nutraseutikal. Emulsi dirancang dalam delapan formula menggunakan minyak sawit merah sebagai fase minyak, aquadest sebagai fase air, serta emulsifier lesitin dan Tween 80. Evaluasi stabilitas dilakukan pada suhu 25°C, dengan pengujian organoleptis, pH, homogenitas, dan viskositas. Hasil menunjukkan bahwa formula F1 dan F2, mengandung 15% minyak sawit merah, memiliki stabilitas terbaik dengan daya simpan lebih dari 21 hari. Seluruh formula menunjukkan karakteristik organoleptis yang baik seperti tekstur halus dan aroma khas. Namun, beberapa formula mengalami perubahan pH selama penyimpanan, yang menunjukkan kemungkinan degradasi. Uji homogenitas menunjukkan enam dari delapan formula memiliki distribusi partikel yang merata. Secara keseluruhan, penelitian ini menyimpulkan bahwa emulsi berbasis minyak sawit merah dapat diformulasikan secara stabil dan berpotensi sebagai sediaan nutraseutikal yang efektif.

Kata Kunci: Minyak sawit merah, emulsi, nutraseutikal, stabilitas fisik, formulasi

FORMULATION AND EVALUATION OF RED PALM OIL EMULSION FOR NUTRACEUTICAL APPLICATIONS

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ABSTRACT

This research aims to develop and evaluate the physical stability of red palm oil-based emulsion preparations as nutraceuticals. Eight emulsion formulas were developed using red palm oil as the oil phase, distilled water as the water phase, and lecithin emulsifier or Tween 80. Stability evaluation was carried out at two temperatures, namely 25°C, with a focus on organoleptic tests, pH, homogeneity, and viscosity. The results showed that formulas F1, and F2 with an oil concentration of 15% had the highest stability, lasting more than 21 days at room temperature. Organoleptic tests indicated that all formulas maintained good characteristics, with a smooth texture and fresh aroma. Meanwhile, changes in pH were observed in some formulas, indicating potential degradation. Homogeneity testing confirmed that six of the eight formulas met the criteria for good homogeneity. Overall, this study shows that red palm oil-based emulsions can be developed with sufficient stability for nutraceutical applications, making a positive contribution to the development of more effective health products.

Keywords: *Formulation, Red palm oil, Nutraceutical*