

INTISARI

Kelembapan udara yang tinggi dan kurangnya kesadaran akan kebersihan diri merupakan salah satu faktor penyebab meningkatnya pertumbuhan jamur *Candida albicans*, infeksi yang terjadi pada kulit kepala dapat mengakibatkan ketombe. Berdasarkan data empiris minyak atsiri cengkeh (*Syzygium aromaticum*) dan kayu manis (*Cinnamomum burmannii*) mengandung senyawa antijamur berupa eugenol dan sinamaldehyd. Namun, minyak atsiri bersifat mudah menguap. Oleh karena itu, penelitian ini bertujuan memformulasikan nanoemulsi minyak atsiri cengkeh dan kayu manis dalam sediaan sampo. Pada penelitian ini dilakukan uji aktivitas antijamur dengan difusi cakram dan optimasi surfaktan ko-surfaktan nanoemulsi menggunakan metode *Simplex Lattice Design* dengan parameter ukuran partikel, % transmitan, dan PDI. Sediaan sampo kemudian dievaluasi dengan melihat kesesuaiannya terhadap ketentuan SNI 06-2692-1992. Hasil optimasi menunjukkan nanoemulsi dengan tween 80 sebesar 40% dan PEG 400 sebesar 10% mampu menghasilkan nanoemulsi sesuai kriteria. Uji antijamur menunjukkan 1% minyak atsiri cengkeh menghasilkan zona hambat sebesar $3,49 \pm 0,35$ mm dan 4% minyak atsiri kayu manis cengkeh menghasilkan zona hambat sebesar $43,37 \pm 0,76$ mm. Nanoemulsi selanjutnya diformulasikan dalam bentuk Sampo. Hasil uji formula menunjukkan kesesuaian dengan standar SNI. Namun hasil *cycling test* menunjukkan sampo mengalami perubahan viskositas dan pH akibat perubahan suhu penyimpanan.

Kata Kunci: Minyak Atsiri Cengkeh, Minyak Atsiri Kayu Manis, Nanoemulsi, Sampo, Antijamur

ABSTRACT

*High humidity and lack of awareness of personal hygiene is one of the factors that cause an increase in the growth of the Candida albicans fungus, an infection that occurs on the scalp can cause dandruff. Based on empirical data, clove (*Syzygium aromaticum*) and cinnamon (*Cinnamomum burmannii*) essential oils contain antifungal compounds in the form of eugenol and cinnamaldehyde. However, essential oils are volatile. Therefore, this study aims to formulate a nanoemulsion of clove and cinnamon essential oil in the preparation of shampoo. In this research, the antifungal activity was tested by disk diffusion and optimized surfactant co-surfactant nanoemulsion using the Simplex Lattice Design method with parameters of particle size, % delivery, and PDI. The preparation of shampoo is then evaluated by looking at its conformity with the provisions of SNI 06-2692-1992. The optimization results show that nanoemulsion with 40% tween 80 and 10% PEG 400 is able to produce nanoemulsion according to the criteria. Antifungal tests showed that 1% clove essential oil produced an inhibition zone of 3.49 ± 0.35 mm and 4% cinnamon clove essential oil produced an inhibition zone of 43.37 ± 0.76 mm. The nanoemulsion is then formulated into a shampoo. Formula test results show compliance with SNI standards. However, the cycle test results showed that the viscosity and pH of the shampoo had changed due to changes in storage temperature.*

Keywords: *Clove Essential Oil, Cinnamon Essential Oil, Nanoemulsion, Shampoo, Antifungal*