

ABSTRAK

Candida albicans merupakan jamur oportunistik yang dapat menyebabkan infeksi pada manusia. Penggunaan antijamur sintetis secara terus-menerus dapat meningkatkan risiko resistensi, sehingga diperlukan alternatif bahan alam seperti minyak atsiri daun serai dapur (*Cymbopogon citratus*). Penelitian ini bertujuan memperoleh minyak atsiri daun serai dapur dengan metode *Solvent-Free Microwave Extraction* (SFME), mengetahui komponen kimianya menggunakan *Gas Chromatography-Mass Spectrometry* (GC-MS), serta mengetahui karakteristik dan aktivitas antijamur sediaan salep terhadap *Candida albicans*. Minyak atsiri diekstraksi menggunakan SFME, kemudian dianalisis dengan GC-MS dan diformulasikan menjadi salep dengan konsentrasi 3%, 6%, dan 9%. Sediaan dievaluasi melalui uji organoleptik, homogenitas, pH, daya sebar, dan aktivitas antijamur menggunakan metode sumuran. Hasil penelitian menunjukkan rendemen minyak atsiri sebesar 0,543% dengan tiga komponen utama, yaitu *nerol* (*cis-geraniol*) 29,66%, *E-citral* (*geranial/trans-citral*) 50,38%, dan *tetramethylethylene* 19,96%. Ketiga formula salep memiliki tekstur semi-solid dan homogen. Nilai pH menurun dari 4,50 pada formula 3% menjadi 4,38 pada formula 9%, sedangkan daya sebar terbesar diperoleh formula 9% sebesar 4,8 cm. Formula 9% menunjukkan aktivitas antijamur paling tinggi terhadap *Candida albicans*, meskipun masih tergolong rendah. Berdasarkan hasil tersebut, minyak atsiri daun serai dapur berpotensi dikembangkan sebagai bahan aktif antijamur dalam sediaan topikal.

Kata kunci: *Candida albicans*, *Cymbopogon citratus*, minyak atsiri, salep, SFME.

ABSTRACT

Candida albicans is an opportunistic fungus that can cause infections in humans. Continuous use of synthetic antifungals can increase the risk of resistance, so alternative natural ingredients such as table lemongrass leaf essential oil (*Cymbopogon citratus*). This study aims to obtain essential oil of kitchen lemongrass leaves using the Solvent-Free Microwave Extraction (SFME) method, determine its chemical components using Gas Chromatography-Mass Spectrometry (GC-MS), and determine the characteristics and antifungal activity of ointment preparations against *Candida albicans*. The essential oils are extracted using SFME, then analyzed with GC-MS and formulated into ointments with concentrations of 3%, 6%, and 9%. The preparations were evaluated using organoleptic, homogeneity, pH, spreadability, and antifungal activity tests, with the latter performed by the submerged method. The results showed an essential oil yield of 0.543%, with three main components: nerol (*cis*-geraniol), 29.66%; *E*-citral (geranial/*trans*-citral), 50.38%; and tetramethylethylene, 19.96%. All three ointment formulations have a semi-solid, homogeneous texture. The pH value decreased from 4.50 in the 3% formula to 4.38 in the 9% formula, while the largest dispersion was obtained in the 9% formula of 4.8 cm. The 9% formula exhibited the highest antifungal activity against *Candida albicans*, although it remained relatively low. Based on these results, table lemongrass leaf essential oil has the potential to be developed as an antifungal active ingredient in topical preparations.

Keywords: *Candida albicans*, *Cymbopogon citratus*, essential oils, ointments, SFME.