INTISARI

Kandungan minyak atsiri rimpang temu putih (*Curcuma zedoaria* [Berg.] Roscoe) telah terbukti memiliki aktivitas antibakteri terhadap bakteri *Staphylococcus epidermidis*. Berdasarkan hal tersebut, minyak atsiri temu putih berpotensi untuk diformulasikan menjadi sediaan topikal emulgel. Emulgel dibuat dalam tiga formula dengan variasi komposisi carbopol 940 sebagai *gelling agent*. Penelitian ini bertujuan untuk memastikan emulgel minyak atsiri temu putih sesuai dengan kriteria, mengetahui ada tidaknya aktivitas antibakteri emulgel minyak atsiri temu putih terhadap bakteri *Staphylococcus epidermidis*, dan mengetahui pengaruh variasi komposisi carbopol 940 dalam sediaan emulgel minyak atsiri temu putih terhadap sifat fisik dan kemampuannya sebagai antibakteri pada bakteri *Staphylococcus epidermidis*.

Penelitian ini termasuk dalam penelitian eksperimental murni rancangan acak lengkap pola searah. Sifat fisik emulgel yang diamati meliputi organoleptis, pH, viskositas, daya sebar, dan stabilitas emulgel, yaitu mengamati viskositas 48 jam dan tiap minggu selama 1 bulan. Analisis data menggunakan ANOVA satu arah dengan taraf kepercayaan 95%, selanjutnya dilakukan *T-test* dengan menggunakan aplikasi program R versi 3.0.1.

Hasil penelitian menunjukkan bahwa emulgel minyak atsiri temu putih FI dan FII memiliki sifat fisik sesuai kriteria, sedangkan FIII tidak. Emulgel minyak atsiri temu putih memiliki aktivitas antibakteri terhadap *Staphylococcus epidermidis*. Penambahan konsentrasi carbopol 940 pada sediaan emulgel minyak atsiri temu putih berbanding terbalik dengan aktivitas antibakteri yang diukur melalui diameter zona hambat terhadap bakteri *Staphylococcus epidermidis*.

Kata kunci : antibakteri, minyak atsiri temu putih, carbopol 940, *gelling agent*, emulgel, zona hambat, *Staphylococcus epidermidis*

ABSTRACT

The content of zedoaria oil (*Curcuma zedoaria* [Berg.] Roscoe) had been shown to have antibacterial activity against *Staphylococcus epidermidis*. Based on this, zedoaria oil had the potential to be formulated into topical emulgel preparations. Emulgel was made in three formulas with compositional variation of carbopol 940 as a gelling agent. This research aimed to ensure the emulgel of zedoaria oil according to the criteria, to determine whether there was antibacterial activity in emulgel of zedoaria oil against *Staphylococcus epidermidis*, and to determine the effect of variations in the composition of Carbopol 940 in emulgel of zedoaria oil on physical properties and its ability as antibacterial.

This research was a pure experimental research with completely randomized one-way design. The physical properties of the emulgel of zedoaria oil that observed was organoleptic characteristics, pH, viscosity, spreadability, and stability of emulgel, by observing the viscosity at 48 hours and every week for 1 month. Analysis of data was using one-way ANOVA with a confidence level of 95%, and then followed by T-test using application program R version 3.0.1.

The results showed the emulgel of zedoaria oil in FI and FII had physical properties which matched the criteria, while FIII did not. Emulgel of zedoaria oil had antibacterial activity against *Staphylococcus epidermidis*. The increase of carbopol 940 concentration in emulgel of zedoaria oil was inversely proportional to the antibacterial activity which was measured by inhibition zone diameter against *Staphylococcus epidermidis*.

Keywords : antibacterial , zedoaria oil, carbopol 940, gelling agent, emulgel, inhibition zone, *Staphylococcus epidermidis*