

ABSTRAK

Daun sirih merah (*Piper crocatum* Ruiz & Pav.) diketahui memiliki banyak manfaat salah satunya berperan sebagai antiseptik. Optimasi dilakukan agar *hand sanitizer cream* yang dihasilkan memenuhi persyaratan sifat fisik dan stabilitas fisik yang optimal. Penelitian ini bertujuan untuk mengetahui aktivitas antiseptik ekstrak daun sirih merah dan memformulasikannya ke dalam sediaan *hand sanitizer cream* dengan komposisi optimum setil alkohol dan tween 80.

Uji aktivitas antibakteri ekstrak daun sirih merah menggunakan metode difusi *paper disk* pada beberapa konsentrasi. Data sifat fisik dan stabilitas fisik berupa viskositas, daya sebar dan daya lekat setelah penyimpanan selama 3 siklus dipilih sebagai respon yang diteliti dan dianalisis dengan metode desain faktorial dan ANOVA tingkat kepercayaan 95% menggunakan *design expert 13 free trial*, *contour plot superimposed* yang diperoleh digunakan untuk menentukan area optimum.

Hasil skrining fitokimia ekstrak daun sirih merah menunjukkan adanya senyawa flavonoid, alkaloid dan tanin. Uji aktivitas antibakteri ekstrak daun sirih merah pada konsentrasi 15%, 20%, 25% dan 35% memiliki aktivitas hambatan yang tergolong kategori sedang terhadap bakteri *Staphylococcus aureus* ATCC 25923. Komposisi optimum yang diperoleh yaitu setil alkohol 3,15 gram dan tween 80 3,89 gram. Hasil uji stabilitas fisik sediaan *hand sanitizer cream* hanya Fa dan Fab yang memenuhi rentang penerimaan viskositas, daya sebar dan daya lekat.

Kata kunci : ekstrak daun sirih merah, antiseptik, *hand sanitizer cream*, setil alkohol, tween 80, desain faktorial

ABSTRACT

*Red betel leaf (*Piper crocatum* Ruiz & Pav.) is known to have many benefits, one of which acts as an antiseptic. Optimization is carried out so that the hand sanitizer cream produced meets the requirements for optimal physical properties and physical stability. This study aims to determine the antiseptic activity of red betel leaf extract and to formulate it into hand sanitizer cream with the optimum composition of cetyl alcohol and tween 80.*

Antibacterial activity test of red betel leaf extract using paper disk diffusion method at several concentrations. Data on physical properties and physical stability in the form of viscosity, dispersibility and adhesion after storage for 3 cycles were selected as responses which were studied and analyzed by factorial design method and 95% confidence level ANOVA using expert design 13 free trial, superimposed contour plot obtained was used to determine the optimum area.

*The results of phytochemical screening of red betel leaf extract showed the presence of flavonoid compounds, alkaloids and tannins. The antibacterial activity test of red betel leaf extract at concentrations of 15%, 20%, 25% and 35% had inhibitory activity classified as moderate category against *Staphylococcus aureus* ATCC 25923. The optimum compositions obtained were 3.15 grams of cetyl alcohol and 3.89 grams of tween 80. . The results of the physical stability test for hand sanitizer cream were only Fa and Fab which met the acceptable range of viscosity, dispersion and adhesion.*

Keywords : red betel leaf extract, antiseptic, hand sanitizer cream, cetyl alcohol, tween 80, factorial design