

## ABSTRAK

UTOMO, P.W., 2015, FORMULASI DAN UJI AKTIVITAS ANTIBAKTERI SEDIAAN PASTA GIGI EKSTRAK DAUN SIRIH MERAH (*Piper crocatum* (Lmk.) Ruiz. & Pav.) TERHADAP *Streptococcus mutans* ATCC 25175 SECARA *in vitro*, SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA.

Tanaman sirih merah selain dimanfaatkan sebagai tanaman hias juga merupakan salah satu tanaman obat yang berkhasiat antibakteri. Penelitian ini bertujuan untuk mengetahui pengaruh variasi konsentrasi daun sirih merah terhadap stabilitas fisik sediaan pasta gigi dan aktivitas antibakterinya.

Ekstrak daun sirih merah diperoleh dengan metode maserasi menggunakan etanol 70%. Sediaan pasta gigi dibuat dalam 3 formula dimana Formula 1, 2, dan 3 masing-masing mengandung ekstrak sebanyak 5%, 10%, dan 15%. Pengujian aktivitas antibakterinya menggunakan metode dilusi, serta diamati stabilitas fisiknya yang meliputi bentuk fisik, homogenitas, pH, daya sebar, serta viskositas.

Hasil penelitian menunjukkan bahwa pasta gigi ekstrak daun sirih merah dalam berbagai konsentrasi memiliki homogenitas yang baik. Sediaan pasta gigi ekstrak daun sirih merah memiliki pH sekitar 5-6. Semakin tinggi konsentrasi ekstrak dalam pasta gigi menghasilkan nilai viskositas yang semakin kecil, tetapi daya sebar semakin besar. Hasil uji aktivitas antibakteri ekstrak dalam pasta gigi menunjukkan Konsentrasi Bunuh Minimum (KBM) formula 1 dan 2 adalah 12,5%, sedangkan KBM formula 3 adalah 6,25%.

Kata kunci : Ekstrak daun sirih merah, pasta gigi, uji stabilitas fisik, uji aktivitas antibakteri, dilusi.

## ABSTRACT

UTOMO, P.W., 2015, FORMULATION AND ANTIBACTERIA ACTIVITY TEST TOOTHPASTE OF EXTRACT OF RED PIPER BETLE LEAVES (*Piper crocatum* (Lmk.) Ruiz. & Pav.) AGAINST *Streptococcus mutans* (ATCC 25175) *in vitro*, THESIS, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY, SURAKARTA.

The red piper betel plants in addition to be used as ornamental plants is also one of effective antibacterial medicine plants. This study was aimed to find out the influence of red piper betel leaf extract variation on the physical stability and antibacterial activity.

The red betel leaf extract was obtained through maseration method using aethanol 70%. Toothpaste preparations were made in 3 formulas, which 1<sup>st</sup> formula contained 5% extract, 2<sup>nd</sup> formula contained 10% extract and 3<sup>rd</sup> formula contained 15% extract. Antibacterial activity test using dilution method and physical stability test including physical form, homogeneity, pH, spreading and viscosity.

The results showed that the tootpaste of extract from red betel leaf in various concentrations had good homogeneity. Red piper betel leaf extract toothpaste preparation had pH around 5-6. The higher the concentration of extract in tootpaste produced the smaller viscosity, but spreading getting bigger. The results of antibacterial activity test of tootpaste showed minimum bactericidal concentration 1<sup>st</sup> and 2<sup>nd</sup> formula were 12,5%, and 3<sup>rd</sup> formula was 6,25%.

Keywords: red betel leaf extract, tootpaste, physical stability test, antibacterial activity test, dilution.