

ABSTRAK

Penelitian ini berfokus pada masalah kesehatan mulut yang disebabkan oleh bakteri *Streptococcus mutans*. Daun saga diketahui mengandung berbagai metabolit sekunder yang berpotensi sebagai agen antibakteri, termasuk flavonoid, tanin, dan saponin. Tujuan dari penelitian ini adalah untuk mengembangkan formula sediaan *patch* dengan ekstrak air daun saga terhadap bakteri *Streptococcus mutans*. Metode ekstraksi ini yaitu infusa dengan pelarut aquadest. Pengujian aktivitas antibakteri dilakukan dengan metode difusi sumuran. Hasil rata-rata pengujian KHM pada ekstrak air daun saga yaitu pada 100% menunjukkan zona hambat sebesar 18,98 mm, konsentrasi 50% menunjukkan zona hambat sebesar 17,62 mm, konsentrasi 25% menunjukkan zona hambat sebesar 16,16 mm, konsentrasi 12,5% menunjukkan zona hambat sebesar 14,53 mm, konsentrasi 6,25% menunjukkan zona hambat sebesar 9,85 mm, konsentrasi 3,12% menunjukkan zona hambat sebesar 9,4 mm, serta pada konsentrasi 1,56% dan 0,78% tidak menunjukkan adanya zona hambat. Konsentrasi ekstrak yang diperlukan untuk sediaan *patch* ditentukan berdasarkan hasil uji KHM. Tiga konsentrasi yang berbeda digunakan dalam pembuatan sediaan *patch*, yaitu formula F3,12, F6,25, dan F12,5. Basis *patch* berfungsi sebagai kontrol negatif, sedangkan kontrol positif ditambahkan menggunakan antibiotik tetrasiklin. Hasil evaluasi menunjukkan bahwa sediaan *patch* ini telah memenuhi kriteria standar yang telah ditentukan dan menunjukkan aktivitas antibakteri terhadap pertumbuhan bakteri *Streptococcus mutans*. Sediaan *patch* dengan formulasi 3,12% menunjukkan daya hambat sebesar 9,85 mm merupakan kategori sedang, formulasi 6,25% menunjukkan daya hambat 11,24 mm merupakan kategori kuat, dan formulasi 12,5% menunjukkan daya hambat 13,86 mm yang merupakan kategori kuat, serta termasuk formulasi yang paling efektif terhadap bakteri *Streptococcus mutans*.

Kata Kunci : Ekstrak daun saga, Antibakteri, Sediaan *Patch*, *Streptococcus mutans*

ABSTRACT

This study focuses on oral health problems caused by Streptococcus mutans bacteria. Saga leaves are known to contain various secondary metabolites that have the potential as antibacterial agents, including flavonoids, tannins, and saponins. The purpose of this study was to develop a patch preparation formula with saga leaf water extract against Streptococcus mutans bacteria. This extraction method is infusion with aquadest solvent. Antibacterial activity testing was carried out using the well diffusion method. The average results of the MIC test on the water extract of saga leaves were at 100% showing an inhibition zone of 18.98 mm, a concentration of 50% showing an inhibition zone of 17.62 mm, a concentration of 25% showing an inhibition zone of 16.16 mm, a concentration of 12.5% showing an inhibition zone of 14.53 mm, a concentration of 6.25% showing an inhibition zone of 9.85 mm, a concentration of 3.12% showing an inhibition zone of 9.4 mm, and at concentrations of 1.56% and 0.78% showing no inhibition zone. The concentration of extract required for the patch preparation was determined based on the results of the MIC test. Three different concentrations were used in the manufacture of the patch preparation, namely formulas F3.12, F6.25, and F12.5. The patch base functioned as a negative control, while the positive control was added using tetracycline antibiotics. The evaluation results showed that this patch preparation had met the predetermined standard criteria and showed antibacterial activity against the growth of Streptococcus mutans bacteria. The patch preparation with a 3.12% formulation showed an inhibitory power of 9.85 mm which was a moderate category, the 6.25% formulation showed an inhibitory power of 11.24 mm which was a strong category, and the 12.5% formulation showed an inhibitory power of 13.86 mm which was a strong category, and included the most effective formulation against Streptococcus mutans bacteria.

Keywords : Saga leaf extract, Antibacterial, Patch Preparation, Streptococcus mutans