

INTISARI

RAHMAWATI, F, R., 2019, FORMULASI DAN UJI DAYA HAMBAT OBAT KUMUR EKSTRAK KAYU SIWAK (*Salvadora persica* Linn.) TERHADAP AKTIVITAS BAKTERI *Streptococcus mutans* ATCC 25175 SECARA *in vitro*, SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA.

Karies gigi yang disebabkan oleh bakteri *Streptococcus mutans* merupakan penyakit yang memiliki prevalensi sangat tinggi di Indonesia. Obat kumur dapat membersihkan bagian gigi yang sulit dibersihkan dengan pasta gigi. Kayu siwak (*Salvadora persica* Linn.) memiliki aktivitas antibakteri. Tujuan penelitian ini untuk memformulasikan obat kumur dari ekstrak kayu siwak yang memiliki aktivitas antibakteri terhadap bakteri *Streptococcus mutans*.

Ekstrak diperoleh dengan maserasi menggunakan pelarut etanol 70%. Pembuatan obat kumur dengan konsentrasi ekstrak 1%, 3%, 5%, dan 7%. Pengujian mutu fisik dan stabilitas menggunakan uji organoleptis, pH, dan viskositas. Data hasil diuji statistik dengan *Paired Samples T-Test*. Pengujian aktivitas antibakteri menggunakan metode difusi cakram. Data hasil yang berupa diameter zona hambat diuji statistik dengan SPSS metode *One Way Anova*, *Tukey HSD*.

Hasil penelitian menunjukkan formulasi obat kumur ekstrak kayu siwak memiliki mutu fisik dan stabilitas yang baik hingga 21 hari. Obat kumur ekstrak kayu siwak berpotensi sebagai antibakteri. Formulasi obat kumur dengan konsentrasi ekstrak 1%, 3%, 5%, dan 7% berturut-turut menghasilkan zona hambat sebesar 11,93 mm $\pm$ 0,81, 16,53 mm $\pm$ 0,68, 17,26 mm $\pm$ 0,45, dan 23, 96 mm $\pm$ 0,94. Formulasi obat kumur dengan konsentrasi ekstrak 3% memiliki aktivitas paling efektif.

Kata kunci : Obat kumur, *Salvadora persica* Linn., *Streptococcus mutans*, Difusi.

ABSTRACT

RAHMAWATI, F, R., 2019, FORMULATION AND INHIBITORY POWER OF SIWAK WOOD EXTRACT MOUTHWASH (*Salvadora persica* Linn.) ON THE ACTIVITY OF *Streptococcus mutans* BACTERIA ATCC 25175 *in vitro*, THESIS, FACULTY OF FPHARMACY, SETIA BUDI UNIVERSITY, SURAKARTA.

Dental caries caused by the bacteria *Streptococcus mutans* was a disease that has a very high prevalence in Indonesia. Mouthwash can clean parts of the teeth that are difficult to clean with toothpaste. Siwak wood (*Salvadora persica* Linn.) has antibacterial activity. The purpose of this study was to formulate mouthwash from siwak wood extract which has antibacterial against the *Streptococcus mutans* bacteria.

The extract was obtained by maceration using 70% ethanol solvent. Making mouthwash with extract concentration of 1%, 3%, 5%, and 7%. Physical quality testing and stability using organoleptic test, pH, and viscosity. The result of the data were tested statistically by *Paired Samples T-Test*. Antibacterial activity testing using the cakram diffusion method. The result of the data in the form of the diameter of the inhibition zone were tested statistically by *One Way Anova* SPSS method, *Tukey HSD*.

The result showed that the formulation of siwak wood mouthwash extract had good physical quality and stability for up to 21 days. Siwak wood extract mouthwash has the potential as an antibacterial. Mouthwash formulation with extract concentration of 1%, 3%, 5%, and 7%, respectively resulted in inhibition zones of 11,93 mm $\pm$ 0,81, 16,53 mm $\pm$ 0,68, 17,26 mm $\pm$ 0,45, and 23, 96 mm $\pm$ 0,94. Mouthwash formulation of 3% has the most effective activity.

Keywords : Mouthwash, *Salvadora persica* Linn., *Streptococcus mutans*, Diffusion.