**FORMULASI DAN UJI AKTIVITAS ANTIBAKTERI SEDIAAN GEL EKSTRAK ETANOL DAUN KARSEN (*Muntingia calabura* L*.*) TERHADAP BAKTERI *Staphylococcus aureus*,**

***Escherichia coli* DAN *Pseudomonas aeruginosa***

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**ABSTRAK**

Daun karsen (*Muntingia calabura* L.) mengandung berbagai senyawa metabolit sekunder alkaloid, flavonoid, saponin, tanin, steroid/triterpenoid dan glikosida diantaranya berpotensi sebagai antibakteri. Tujuan penelitian ini adalah untuk mengetahui kandungan senyawa metabolit sekunder di dalam daun karsen, simplisia dan ekstrak etanolnya dan aktivitas antibakteri ekstrak etanol dalam sediaan gel terhadap bakteri Gram positif *Staphylococcus aureus* dan Gram negatif *Escherichia coli* dan *Pseudomonas aeruginosa.*

Penelitian yang dilakukan meliputi karakterisasi dan skrining fitokimia daun karsen segar, serbuk simplisia dan ekstrak etanolnya. Pembuatan ekstrak daun karsen secara maserasi menggunakan etanol 96%. Formulasi ekstrak etanol ke dalam sediaan gel konsentrasi 5%, 7,4%, 10%, evaluasi mutu fisik sediaan gel dan uji aktivitas antibakteri terhadap *Staphylococcus aureus, Escherichia coli* dan *Pseudomonas aeruginosa* dengan metode difusi agar.

Hasil penelitian menunjukkan bahwa simplisia daun karsen memiliki kadar air 4%, sari larut dalam air 20%, sari larut dalam etanol 23,3%, abu total 2,1%, dan abu tidak larut dalam asam 1,3%. Daun karsen segar,serbuk simplisia dan ekstrak etanolnya mengandung senyawa kimia yang sama yaitu alkaloid, flavonoid, saponin, tanin, steroid/triterpenoid dan glikosida. Ekstrak daun karsen dapat diformulasi ke dalam sediaan gel, stabil selama 35 hari pada suhu kamar, homogen, tidak menyebabkan iritasi, nilai pH 5,8-6,1 dan formula yang paling disukai panelis adalah konsentrasi 7,5%. Sediaan gel yang diformulasikan mempunyai aktivitas antibakteri sangat kuat terhadap *Pseudomonas aeruginosa* dengan diameter 15,83 mm, *Escherichia coli* diameter 14,16 mm dan *Staphylococcus aureus* diameter 14,83 mm.

**Kata Kunci:** *daun karsen, sediaan gel, Staphylococcus aureus, Escherichia coli, Pseudomonas aeruginosa*

***GEL FORMULATION AND ANTIBACTERIAL ACTIVITY TEST* *OF KARSEN LEAVE (Muntingia calabura L.) ETHANOL***

***EXTRACT AGAINST* *Staphylococcus aureus*,**

***Escherichia coli AND* *Pseudomonas aeruginosa***

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**ABSTRACT**

*Karsen (Muntingia calabura L.) leaves contain various phytochemical compounds such as alkaloids, flavonoids, saponins, tannins, steroids/triterpenoidsand glycosides. Some of them (flavonoid and tanin) have potential activity as antibacterial. The purpose of this study were to determine secondary metabolites on karsen leaves, dried leave and ethanol extract and antibacterial activityof ethanol extract in gel dosage form against Staphylococcus aureus, Escherichia coli and Pseudomonas aeruginosa.*

*The research included characterization and phytochemical screening of fresh leaves, dried leaves and ethanol extract of karsen. Extraction of dried leaves was carried out by maseration method using 96% ethanol as an solvent. Gel formulation of ethanol extract of karsen leaves were formulated by using 5%, 7,5% and 10% of karsen leave extract. After wards, evalution of dosage form were carried and followed by antibacterial test against Staphylococcus aureus, Escherichia coli and Pseudomonas aeruginosa.*

*Result of this study showed that dried karsen leaves contained 4% of water, 20% of soluble extract in water, 23,3% of soluble extract in ethanol, 2,1% of total ash content and 1,3% of ash is not soluble in the acid. Fresh leaves, dried leave, and ethanol extract of karsen contained same phytochemical compounds, namely alkaloids, flavonoids, saponins, tannins, steroids/triterpenoids and glycosides. Leaves extract of karsen could be formulated into gel. All formulation were stable for 35 days at a room temperature, homogeneous, did not cause irritation, pH 5,8 to 6,1 and formulation with 7,5% extract was most preffered formulation according the panelist. All gel formulation have strong antibacterial activity against Pseudomonas aeruginosa, Escherichia coli and Staphylococcus aureus with diameter of inhibition zona around 15,83; 14,16; 14,83 mm.*

***Keywords* :** *leaves karsen, gel, Staphylococcus aureus, Escherichia coli, Pseudomonas aeruginosa*