

FORMULASI GEL EKSTRAK ETANOL DAUN AFRIKA (*Vernonia amygdalina* DEL) SEBAGAI ANTIBAKTERI *Staphylococcus aureus* DAN *Pseudomonas aeruginosa*

Debi Meilani*, Melati Yulia Kusumastuti

Fakultas Farmasi, Universtas Muslim Nusantara Al Washliyah, Jl. Garu II No. 93, Medan

* email: dbimeilani@gmail.com

ABSTRACT

Infection is one of the most common illnesses suffered by Indonesian residents. One of the plants that can be used as medicine is African leaves (Vernonia amygdalina Del). This study aimed to test the antibacterial effect of ethanol extracts of African leaves on the bacteria Staphylococcus aureus and Pseudomonas aeruginosa, to formulate them in gel form and to test the antibacterial effect of the gel on the same bacterias. The stages of this research include extraction of ethanol extracts of African leaves using percolation methods, phytochemical screening and testing the antibacterial effects of extracts on Staphylococcus aureus and Pseudomonas aeruginosa with concentrations of 500 mg / ml, 400 mg / ml, 300 mg / ml, 200 mg / ml. The data obtained will show the minimum inhibitory content of ethanol extract of African leaves as an antibacterial. The research stage was continued by formulating the ethanol extract of African leaves in gel dosage form with dose of extracts that according to the results of the bacterial extract test, then testing the antibacterial effect of the gel against the same bacterias. The results showed that the ethanol extract of African leaves contained secondary metabolites of alkaloids, flavonoids, saponins, tannins, and steroids / triterpenoids. Antibacterial test results showed the value of the minimum inhibitory levels against Staphylococcus aureus and Pseudomonas aeruginosa at a concentration of 200 mg / ml with inhibition area diameters of 14.23 mm and 14.20 mm. The results of the analysis of the antibacterial gel test showed the value of the minimum inhibitory levels against Staphylococcus aureus and Pseudomonas aeruginosa at a dose of 20% with a diameter of inhibition area of 14.36 mm and 14.35 mm.

Key words: Antibacterial, African leaf ethanol extract gel, *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Vernonia amygdalina* Del

PENDAHULUAN

Infeksi merupakan salah satu penyakit yang paling banyak diderita oleh penduduk Indonesia. Salah satu tanaman yang dapat dimanfaatkan sebagai obat adalah daun afrika (*Vernonia amygdalina* Del). Penelitian terdahulu, Adiukwu dkk (2013) menemukan bahwa ekstrak air daun afrika mempunyai aktivitas anti inflamasi dan antipiretik. Ibrahim dkk (2011) menemukan bahwa ekstrak etanol daun afrika mempunyai aktivitas analgesik. Meilani dan Murni (2015) menemukan bahwa ekstrak etanol daun afrika yang tumbuh di Indonesia mengandung berbagai golongan senyawa metabolit sekunder diantaranya flavonoid, tannin dan saponin yyang diketahui secara luas mempunyai khasiat antibakteri. Penelitian ini bertujuan untuk menguji efek antibakteri dari ekstrak etanol daun afrika terhadap bakteri *Staphylococcus aureus* dan *Pseudomonas aeruginosa*, memformulasinya

sebesar 14,36 mm dan 14,35 mm. Gel ekstrak etanol daun afrika stabil selama 35 hari penyimpanan.

DAFTAR PUSTAKA

- Adiukwu, P.C, Kayanja, F.I.B, Nambatya, G, Adzu, B, Twinomujuni, Twikirize, O, Ganiyu, A.A, Uwiduhaye, E, Agwu, E, Tanayen, J.K, Nuwagira, P, Buzaare, P (2013). *Anti-inflammatory and Anti-Pyretic Activity of the Leaf, Root and Saponin Fraction from Vernonia amygdalina*. British Journal of Pharmacology and Toxicology. 4(2):33-40.
- Ditjen POM., 1979. *Farmakope Indonesia*. Edisi III. Jakarta: Departemen Kesehatan RI. Hal XXX.
- Ditjen POM., 1989. *Materia Medika Indonesia*. Jilid V. Jakarta: Departemen Kesehatan RI. Hal 513-520, 536-553.
- Ditjen POM., 1985. *Formularium Kosmetika Indonesia*. Jakarta: Departemen Kesehatan RI. Hal 195.
- Ditjen POM, 1995. *Farmakope Indonesia*. Edisi IV. Jakarta: Departemen Kesehatan RI. Hal 7.
- Ibrahim, G., Abdurahman, E. M., dan Ibrahim, H., Ibrahim, N. D. G., Magaji, M. G 2011. *Toxicity and Analgesic Effect of Vernonia amygdalina Del. Leaf (Asteraceae) Extract on Mice*. Int. J.Adv.Pharm.Biol.Sci. 1(1): 1-
- Meilani, D dan Murni, N, 2015, Karakterisasi Simplisia, Skrining Fitokimia dan Pemanfaatan Gel Ekstrak Etanol Daun Afrika (*Vernonia amygdalina Del*) Sebagai Obat Luka Bakar Tingkat II. Jurnal Kultura 16 (1) 5308-5314. 2015