

# EFEKTIVITAS ANTIBAKTERI FORMULASI GEL EKSTRAK DAUN KELOR (*Moringa oleifera*) TERHADAP *Propionibacterium acnes*

## ABSTRAK

*Moringa oleifera* Lam, yang sering dikenal di Indonesia sebagai tanaman kelor, ialah salah satu tanaman yang sangat menjanjikan sebagai komponen obat. Daun tanaman kelor ini sering dimanfaatkan oleh masyarakat. Daun kelor menyimpan energi, protein, lemak, karbohidrat, serat makanan, berbagai vitamin serta mineral. Bubuk daun kelor kaya akan sitokinin serta di dalamnya terdapat salah satunya zeatin yakni zat yang mempunyai anti-oksidan tinggi sebagai anti-penuaan serta anti-inflamasi. *Propionibacterium acnes* ialah jenis bakteri pemicu jerawat (*acne vulgaris*). *Propionibacterium acnes* ialah salah satu bakteri penyebab infeksi.

Tujuan riset ini ialah guna melihat efektivitas antibakteri gel ekstrak etanol dalam kelor terhadap pertumbuhan bakteri *Propionibacterium acnes*.

Jenis riset ini bersifat eksperimental laboratorium secara *in vitro*. Bentuk desain riset yang dipilih ialah *True Experimental Post-Test Group Design* serta 28 ekor hewan uji yang diklasifikasikan menjadi tujuh kelompok serta mendapat perlakuan yang bervariasi. Temuannya dianalisis memakai software SPSS.

Hasil penelitian Adanya konsistensi efektivitas formulasi gel ekstrak daun kelor terhadap pertumbuhan bakteri *Propionibacterium acnes*, yaitu dengan rata-rata diameter zona hambat 14,5 mm (efektivitas kuat) pada metode sumuran dan rata-rata diameter 13,0 mm (efektivitas kuat) pada metode difusi cakram. Dan pada metode sumuran efek antibakteri gel ekstrak etanol daun kelor pada konsentrasi 20% mempunyai daya hambat paling tinggi serta pada metode difusi cakram konsentrasi 40% mempunyai daya hambat paling tinggi dibandingkan konsentrasi lainnya.

Kata Kunci : gel ekstrak daun kelor, *Propionicacterium acnes*

ABSTRACT

*One of Indonesian native plants that has a great potential as an ingredient in medicine is Moringa oleifera Lam or in Indonesia better known as the Moringa plant. The part of this Moringa plant that is often used by the community is the leaves. Moringa leaves have nutrients in the form of energy, protein, fat, carbohydrates, dietary fiber, several vitamins and minerals. Moringa leaf powder contains a lot of cytokinins, one of which is zeatin, a compound that has high anti-oxidant properties with anti-aging and anti-inflammatory properties. Propionibacterium acnes is the bacteria that causes acne (acne vulgaris) and infection.*

*The purpose of this study was to determine the antibacterial effectiveness of the ethanolic Moringa gel extract against the growth of Propionibacterium acnes bacteria.*

*The type of research conducted was an in-vitro laboratory experiment. The research design chosen was True Experimental Post-Test Group Design and the number of test animals was 28 which were divided into seven groups and received different treatments. The results were analyzed using SPSS software..*

*The results showed that there was consistency in the effectiveness of the Moringa leaf extract gel formulation against the growth of Propionibacterium acnes bacteria, with an average diameter of inhibition zone of 14.5 mm (strong effectiveness) in the well method and an average diameter of 13.0 mm (strong effectiveness) in disc diffusion method. In the well method, the antibacterial effect of the ethanol extract of Moringa leaf gel at a concentration of 20% had the greatest inhibitory power and the disk diffusion method at 40% concentration had the greatest inhibition compared to other concentrations.*

*Keywords: Moringa leaf extract gel, Propionibacterium acnes*