

## **Antibacterial Effect of *Aloe Vera* to Gram-Negative Bacteria on Wounds, An Overview**

Siti Nur Yasmeen Yusman<sup>a</sup>, Azrena Abdul Karim<sup>b\*</sup>

### **Structured Abstract**

**Background:** As a result of the indiscriminate application of commercial antimicrobial drugs for multiple drug tolerance in human pathogenic diseases, the treatment of bacterial infections of microorganisms has emerged. Many environmental variations cause them to survive and cause various infections under different conditions: temperature, molarity, radiation, toxins, and limited nutrients. It has been estimated that nearly 2 million patients have bacterial infections caused by gram-negative bacteria resistant to antibiotics and approximately more than 23,000 deaths caused by this infection in the United States. *Aloe vera* is a succulent short-stemmed perennial herb in the Liliaceae family with many therapeutic properties, including abortifacient, analgesic, anaesthetic, antiasthmatic, and antibacterial. *Aloe vera* was proven to be effective due to its antibacterial effect because of anthraquinones and salicylic acid which act as antiseptics.

**Methods:** A few related articles have been searched through PubMed, ScienceDirect, and Scopus databases. Using relevant keywords to obtain the articles related to the antibacterial effect of *Aloe vera* to Gram-negative bacteria.

**Results:** The study shows clearly that *Aloe vera* has an antibacterial effect on Gram-negative bacteria due to an increase in the inhibition zone.

**Conclusion:** Products that contain *Aloe vera* extract could heal wounds and protect the infection against Gram-negative bacteria. This study shows that the biologically active components in the *Aloe vera* plant do have the responsibility of having the antibacterial effect against bacteria is reviewed in this paper.

**Keywords:** Antibacterial effect, *Aloe vera*, antibacterial effect *Aloe vera*, gram-negative bacteria, antibacterial effect gram-negative bacteria

---

\*Correspondence: rena184@uitm.edu.my

<sup>a</sup>School of Biology, Faculty of Applied Sciences, Universiti Teknologi MARA, 40450 Shah Alam, Selangor, Malaysia.

<sup>b</sup>School of Industrial Technology, Faculty of Applied Sciences, Universiti Teknologi MARA, 40450 Shah Alam, Selangor, Malaysia.