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HERBAL OINTMENT BLEND AND ANTIBACTERIAL ACTIVITY

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Abstract

Background and Aim*: Bacteria are the most important cause of infection worldwide. Patients with weakened immune systems, infants and the elderly are more prone to infection. Staphylococcus aureus and Pseudomonas aeruginosa are important causes of nosocomial infections and multidrug resistance. Due to drug resistance, the treatment of infections caused by them is facing serious problems. Wound infection is major problem in the all over the world and considering to fund new therapeutic especially herbal is increase, therefore the focus of this study was to evaluate the Antibacterial activity of herbal ointment blend on Staphylococcus aureus and Pseudomonas aeruginosa in vitro study.*

Materials and Methods*: In this study, extracts were first prepared from Ricinus Communis, Achillea millefolium, Calendula officinalis, Onosma dichroanthum Boiss. Then, to determine the amount of Minimum Inhibitory Concentration and Minimum Bactericidal Concentration, microdilution broth method was used. Then to investigate the synergistic effects of extracts by dilution in broth for each extract separately. After data collection, The Kappa coefficient test was used for data analysis, using SPSS 21 software, and the results were reported at the significance level of 0.05.*

Results*: Achillea millefolium have strange antimicrobial effect in Staphylococcus aureus and Calendula officinalis have great antimicrobial effect in Pseudomonas aeruginosa and Ricinus communis do not antimicrobial effect reported.*

Conclusion*: The results of the study indicate that Extracts of aqueous and ethanolic plants extracted from the plants of this study caused better antibacterial activity and can be use with compound of commercial drug to best therapeutic result.*

Keywords: *herbal ointment, ricinus communis, achillea millefolium, calendula officinalis, onosma dichroanthum boiss, antibacterial activity.*

Introduction

The skin is the body's first layer of protection and plays a major role in the body's protection against microorganisms, maintenance of homeostasis, and prevention of incursion. Traditional materials for wound healing process such as gauze and cotton bandages are so absorbent, protect wounds against hemorrhages and contact with the outside environment. But, changing bandages may cause hemorrhage, poor transpiration, and damages to the newly formed tissues. Wound drainage from these dressings may also lead to bacterial infections [*Harris-Tryon & Grice, 2022*]. An ideal dressing should be non-toxic, non-adherent, and no allergenic and should be

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