

СУЧАСНІ ДОСЯГНЕННЯ ФАРМАЦЕВТИЧНОЇ НАУКИ В СТВОРЕННІ ТА СТАНДАРТИЗАЦІЇ ЛІКАРСЬКИХ ЗАСОБІВ І ДІЄТИЧНИХ ДОБАВОК, ЩО МІСТЯТЬ КОМПОНЕНТИ ПРИРОДНОГО ПОХОДЖЕННЯ

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species belonged to three botanical sections [1, 2]. Morphological-taxonomic and chemotaxonomic studies were carried out using the graph analysis method. [3]. The initial data were entered into a matrix table using the MS Excel editor. The results obtained by the chromatographic-mass spectrometric method were used for the chemotaxonomic study. The study of the chemical composition of plant raw materials was carried out in the laboratory of the Department of Chemistry, University of Turku (Finland).

Results and discussions. A comparative morphological-taxonomic and chemotaxonomic study of species of the genus *Paeonia* L. was conducted. Correlative relationships between the morphological structure and chemical composition of plants were established. The chemical profile of the genus was determined. The coefficients of originality (Ko) of chemical features were determined and individual compounds for the species were established.

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HERBAL FORMULATIONS IN BURN HEALING

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Introduction. With increased interest in natural remedies and holistic approaches, researchers and healthcare professionals are increasingly exploring the healing properties of natural products and medicinal plants. Among these, aloe vera (*Aloe Vera*), lavender (*Lavandula off.*) in composition of natural remedies has emerged as potent allies in promoting burn wound healing.

Burns are classified into three degrees: A superficial first-degree burns affect only the superficial layer of skin. Superficial partial-thickness burn second-degree burns involve deeper layers with the formation of blisters. A deep partial-thickness burn involves the deeper reticular dermis - third-degree burns penetrate all layers of the skin and can affect underlying tissues. The healing process varies based on the severity of the burn, but generally includes inflammatory, proliferative, and maturation phases. In addition to the physical damage, burns can lead to complications such as infections, fluid loss, and psychological effects, making effective wound care crucial. This article delves into the conceptualization of natural remedies therapeutic benefits of these plants in combinations, exploring their properties, mechanisms of action, and potential applications in the treatment of burns.

Materials and methods. Aloe vera leaves were used with further purification, extraction, dehydrations etc. Fresh leaves, was divided for obtaining of, gels, dehydrated and dried products, for balsams and plant extracts.

Appliances: Laboratory glassware, dehydrator, digital scales, fridge freezer, colorimeter, infrared thermometer, ph meter etc. The main remedies obtained from aloe vera are listed as, ointment, gels, solutions, balsams so on.

Results and their discussion. We formulated natural plant based remedies that was researched and applied in practice as a combinative formulation in treatment of burns. The synergy of natural compounds with aloe vera and lavender creates a powerful natural remedy for burn wound care. In combination, these botanicals can enhance therapeutic effects, offering a multifaceted approach to healing and regeneration. Enhanced antimicrobial activity through the combination of bioactives. The combined antimicrobial properties of aloe vera and lavender can provide robust protection against infections, a common risk in burn wounds.

Comprehensive pain relief. The anti-inflammatory compounds present in plants not only reduce physical pain but also promote relaxation and emotional well-being. Improved healing environment. The mechanism underlying the healing process involves cellular, subcellular, physiological, and biochemical events which act together to repair injuries. It involves three main intersecting phases: inflammatory, proliferative, and tissue remodeling. The moisture-retaining, antimicrobial activity, anti-inflammatory properties of natural combined bioactives, can provide a soothing and nourishing environment for burn recovery correlating between phases. Aloe vera has anti-inflammatory, vasodilatory, antimicrobial, and proliferative actions. The anti-inflammatory and anesthetic action of aloe vera may be attained by the inhibition of the cyclooxygenase pathway by decreasing prostaglandin E₂ - a key mediator of inflammation. Hydrolyzing enzymes such as carboxypeptidase and bradykinase act as potent anti-inflammatory substances, by breaking down bradykinin - is among the major pain mediators during inflammation. Anti-inflammatory agent C-glycosyl chromone, from the fresh gel extracts exhibit topical anti-inflammatory activity. Also the anti-inflammatory properties of aloe vera are related to its strong ability to inhibit cytokines, ROS production and blocking the signaling of JAK1-STAT1/3. Acemannan is an additional polysaccharide that act as a potent anti-inflammatory agent on the upregulation of white blood cell activity during the wound healing process, stimulate antiviral, antimicrobial and antitumor activities through activation of immune responses and protecting from infection.

Constituents of lavender essential oils linalyl acetate and linalool the two primary terpenoids produce an anxiolytic (calming) effect in combination. Researchers believe this occurs by inhibition of voltage-gated calcium channels, reduction of 5HT_{1A} receptor activity, and increased parasympathetic tone. Lavender accelerates wound healing through, improving blood circulation and activating collagen synthesis formation of granulation tissue, remodeling by collagen replacement from type III to type I. And effectively stimulated wound contraction - wound shrinking encourages the edges of the wound to shrink together and close.

The application of aloe vera combination is not limited just to burns, it is recommendable to prevent ulcers and enhance the healing process of dermal(mucosal

tissues) injuries, frostbite, skin infections, surgical wounds, inflammation, herpes ulcers, diabetic foot ulcers, pressure sores, and chronic wounds.

Conclusion. Natural remedies in combinations with aloe vera and lavender represent an effective remedy in the healing for burn wound care. Their properties-anti-inflammatory, antimicrobial, and soothing - make them effective options for promoting healing, minimizing scarring, and supporting the emotional well-being of burn victims. As interest in natural remedies continues to grow, these plant-based treatments offer a promising complement to traditional medical approaches, paving the way for integrative, patient-centered care in burn management. As always, it is advisable to consult healthcare professionals before implementing any new treatment approaches, especially in the case of severe burn wounds.

The aim of this systematic review was to determine combination of aloe vera efficacy in burn wound healing, and it has been proved practically for multiple years.

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THE EFFECT OF LICORICE (*GLYCYRRHIZA GLABRA* L.) EXTRACT ON CATALASE ACTIVITY IN MICE BRAIN AND LIVER

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Introduction. *Glycyrrhiza glabra* L., is a member of the Fabaceae family and one of the most valuable plants in the world for commerce. The chemical composition of *G. glabra* is glycyrrhizin, glycyrrhetic acid, isoliquiritin, isoflavones, etc., and their derivatives have been reported for several pharmacological activities like antiulcer, anticancer, anti-inflammatory, antidiabetic and antioxidant [1].

Materials and methods. The study was performed on 6-week-old BALB/c mice (n=32). The AlCl₃ solution was used to induce oxidative stress. Catalase activity (CAT) in the brain and liver of mice were determined spectrophotometrically after 21 days of administration of *Glycyrrhiza glabra* L. extract.

Results and their discussion. The results showed that aluminium statistically significant increased CAT activity in mice liver by 23.34% and in brain by 68.69%,