The Miracle from Pistachio Shell: Natural Healing Gel

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Abstract:

This project examines studies on wound healing processes and the materials used, Wounds are classified into two types: acute and chronic, Acute wounds heal quickly, while chronic wounds heal slowly or recur. The wound healing process occurs in four stages: hemostasis, inflammation, proliferation, and maturation. Various wound dressings are used to accelerate healing. Modern wound dressings such as hydrocolloids, alginates, and hydrogels support healing by providing a moist environment.

Antibacterial, antioxidant, and anti-inflammatory substances are also crucial in wound healing processes. Extracts obtained from the outer shell of pistachios possess antibacterial and antioxidant properties, making them a potential candidate for medical applications. The study highlights the sustainable recycling of pistachio shells for the production of an antibacterial gel. This approach is significant in terms of waste management and environmental protection.

In the gel production process, chemical components such as carbomer, triethanolamine, and propylene glycol were used. Carbomer acts as a thickening agent, while triethanolamine serves as a neutralizer. The extraction process was applied to obtain extracts from pistachio shells. This project not only contributes to the reutilization of waste but also promotes innovation in the medical field by utilizing natural resources.

Keywords:

Pistacia Vera, Pistachio, Sustainability, Waste.