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Biological properties and therapeutic activities of honey in wound healing: A narrative review and meta-analysis.

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Abstract

For thousands of years, honey has been used for medicinal applications. The beneficial effects of honey, particularly its anti-microbial activity represent it as a useful option for management of various wounds. Honey contains major amounts of carbohydrates, lipids, amino acids, proteins, vitamin and minerals that have important roles in wound healing with minimum trauma during redressing. Because bees have different nutritional behavior and collect the nourishments from different and various plants, the produced honeys have different compositions. Thus different types of honey have different medicinal value leading to different effects on wound healing. This review clarifies the mechanisms and therapeutic properties of honey on wound healing. The mechanisms of action of honey in wound healing are majorly due to its hydrogen peroxide, high osmolality, acidity, non-peroxide factors, nitric oxide and phenols. Laboratory studies and clinical trials have shown that honey promotes autolytic debridement, stimulates growth of wound tissues and stimulates anti-inflammatory activities thus accelerates the wound healing processes. Compared with topical agents such as hydrofiber silver or silver sulfadiazine, honey is more effective in elimination of microbial contamination, reduction of wound area, promotion of re-epithelialization. In addition, honey improves the outcome of the wound healing by reducing the incidence and excessive scar formation. Therefore, application of honey can be an effective and economical approach in managing large and complicated wounds.