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Honey and Microbial Infections: A Review Supporting the Use of Honey for Microbial Control

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ABSTRACT

Honey has been used as a medicine throughout the ages and has recently been reintroduced to modern medical practice. Much of the research to date has addressed honey's antibacterial properties and its effects on wound healing. Laboratory studies and clinical trials have shown that honey is an effective broad-spectrum antibacterial agent. Honey antimicrobial action explains the external and internal uses of honey. Honey has been used to treat adult and neonatal postoperative infection, burns, necrotizing fasciitis, infected and nonhealing wounds and ulcers, boils, pilonidal sinus, venous ulcers, and diabetic foot ulcers. These effects are ascribed to honey's antibacterial action, which is due to acidity, hydrogen peroxide content, osmotic effect, nutritional and antioxidant content, stimulation of immunity, and to unidentified compounds. When ingested, honey also promotes healing and shows antibacterial action by decreasing prostaglandin levels, elevating nitric oxide levels, and exerting prebiotic effects. These factors play a major role in controlling inflammation and promoting microbial control and healing processes. This article reviews data supporting the effectiveness of natural honey in eradicating human pathogens and discusses the mechanism of actions.

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