

# Antimicrobial Effects of Non-antibiotic Drugs †

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**Abstract:** The ongoing researches have introduced the fact that the speed of acquiring resistance in many microorganisms is more than the speed of developing antimicrobials. Thus it's become necessary to find out any other alternatives or complementary that would induce the efficacy of those antimicrobials or inhibit the development of resistance. There are some natural substances, non-chemotherapeutic compounds, or synthetically modified products, known as ‘Non-antibiotics’, which have mild to moderate efficacy against various gram-negative organisms along with other microbes. For instance, non-steroidal anti-inflammatory drugs, barbiturates, beta-adrenergic receptor antagonists, diuretic drugs, H1 antihistamines, mucolytic agents, proton pump inhibitors, psychotherapeutic drugs, calcium channel blockers, and antidepressants have elicited some synergistic antimicrobial effects in combination with antibiotics to which the organism is initially resistant. These drugs may be of different pharmacological groups with varying mechanisms of action and are introduced for different therapeutic effects other than antimicrobial treatment, though they exhibit, more or less, biocidal or biostatic activity. These non-antibiotics could be amazing lead compounds in the future by further modification and removing their existing drawbacks in pharmacological applications. By this, non-antibiotics could have a significant role in the management and control of certain microbial infections. The purpose of this review is to evaluate the efficacy of non-antibiotics and their mechanisms as helping compounds and their variety of applications in this field of treatment.

**Keywords:** antibiotics; antihistamines; non-antibiotics; antimicrobial agents.

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