Evaluating Antimicrobial Efficacy of Commercial Mouthwashes

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The use of mouthwash is widely recommended by dental professionals and endorsed by organizations such as the American Dental Association for its potential to improve oral hygiene. This experiment aimed to determine which of five mouthwash brands most effectively reduced the number of bacterial colonies in the mouth. Twenty participants were asked to swab their mouths before and after using mouthwash. Prior to mouthwash use, each participant rinsed with water for 30 seconds to neutralize pH levels and remove debris. These initial swabs were plated on nutrient agar to establish a baseline bacterial count. Participants then used one of five randomly assigned mouthwashes for 30 seconds, after which a second swab was taken and similarly plated. The plates were incubated to allow for visible colony growth. After sufficient incubation, the colonies were counted to quantify the reduction in bacterial load. Results indicated that the mouthwash labeled OTC #2 was the most effective, showing a 79% decrease in bacterial colonies compared to the water rinse control group. These findings suggest that certain over-the-counter mouthwashes can significantly reduce oral bacterial populations.

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