Anti- Plaque Toothpastes Effect on Plaque Growth

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This study aimed to evaluate the effectiveness of various anti-plaque toothpaste formulations in reducing plaque, with a particular focus on comparing whitening and non-whitening products. Plaque growth was assessed in using different toothpaste groups, including fluoride-based non-whitening formulations such as "Pro-Health Fluoride anti-plaque" and "Kids Fluoride anti-plaque," as well as whitening formulations like "Plus Baking Soda & Peroxide Whitening" and "MaxFresh + Charcoal." The results revealed significant differences in plaque growth between the toothpaste groups and the control group (dH2O), showing that certain formulations were more effective in controlling plaque. Non-whitening fluoride-based toothpastes consistently produced less plaque growth, supporting the role of fluoride in remineralizing enamel and inhibiting bacterial growth. Statistical analysis, including ANOVA and post-hoc tests, confirmed that whitening toothpastes contributed to greater plaque growth, challenging the assumption that they offer superior plaque control. The study also highlighted the effectiveness of fluoride-containing formulations in plaque reduction, regardless of the whitening agent. However, the research has limitations, including its in vitro design and short duration. Future directions should include human clinical trials to assess the long-term effects of whitening toothpastes on plaque growth and enamel integrity, as well as investigating their impact on individuals with varying oral health conditions. These findings underscore the need for further exploration of toothpaste formulations to balance plaque control with enamel protection.

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