

TITLE: EFFECT OF DILUTED SODIUM HYPOCHLORITE AND *RICINUS COMMUNIS* SOLUTIONS AGAINST *STREPTOCOCCUS MUTANS*.

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ABSTRACT:

For the oral health preservation and the maintenance of prosthetic devices, besides the improvement of existing hygiene methods, it is important to do analysis of new formulations regarding antimicrobial efficacy. This randomized crossover trial evaluated denture cleansers' efficacy in terms of antimicrobial action against *Streptococcus mutans*. Fifty denture wearers diagnosed with denture stomatitis were invited to participate in the study (screening). The research protocol was approved by the Institutional Review Board (CAAE: 14707413.4.0000.5419). Denture stomatitis was evaluated and classified according to the Newton classification. Participants were instructed to brush their dentures three times a day with a brush and a neutral liquid soap, and to soak them for 20 minutes during 14 days. The solutions used for immersions was: Control: 0.85% saline; SH 0.1%: 0.1% sodium hypochlorite; SH 0.2%: 0.2% sodium hypochlorite; RC 8: 8% *Ricinus communis*. The biofilm was collected by brushing the upper denture with saline solution (2 mL). The obtained suspension was diluted from 10^0 to 10^{-3} and seeded (50 μ L) in SB-20 for *S mutans*. After incubation, CFU/mL values were calculated and the groups were compared after transformation, Log₁₀ (CFU+1). Data were analyzed by Friedman ($\alpha=0.05$) and Wilcoxon tests and corrected by Bonferroni ($\alpha=0.05$). The CFU medians and confidence intervals for the groups were, respectively, Baseline 5.83 (3.84; 5.30), Control 4.78 (3.30; 4.65), SH 0.1% 0.00 (0.84; 1.98), SH 0.2% 0.00 (0.72; 1.94) and RC 8 4.90 (3.73; 4.96). SH 0.1% (MeanRank = 2.06) and SH 0.2% (MeanRank = 1.96) showed antimicrobial action for *S mutans* and RC 8 (MR = 3.66) showed similar results to Control (MR = 3.32) and baseline (MR = 4.00). Both sodium hypochlorite solutions were effective on reducing *S. mutans* count, showing better results on the control of biofilm.

Key Words: Denture cleansers. Biofilms. Products with antimicrobial action.

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