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Randomized Controlled Trial [J Indian Soc Pedod Prev Dent. Oct-Dec 2017;35\(4\):319-326.](#)

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Comparative evaluation of salt water rinse with chlorhexidine against oral microbes: A school-based randomized controlled trial

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Abstract

Background: Mouth rinse that is natural, safe, cost-effective, readily available and culturally acceptable is required as an adjunct to routine tooth brushing to combat dental diseases. The aim of present study was to compare the effectiveness of salt water rinse with chlorhexidine mouth rinse in reducing dental plaque and oral microbial count.

Materials and methods: The Minimum Inhibitory Concentration (MIC) of salt water against *S. mutans*, *L. acidophilus*, *A. actinomycetemcomitans* and *P. gingivalis* was determined by Macrobroth Dilution method. Thirty participants were randomly allocated into study group (salt water rinse) and control group (chlorhexidine rinse). Baseline DMFS, defs and plaque scores were recorded. Baseline unstimulated saliva samples were collected by spitting method. Oral prophylaxis was done after baseline sample collection. The participants were advised to rinse the allocated mouthrinse for 5 days under the supervision of co-investigator. Pre-rinse (after oral prophylaxis) and Post-rinse (5th day of

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mouthrinsing) plaque examination and salivary microbial analysis was done. The collected salivary samples were immediately transported and streaked on the respective media for microbial count.

Result: MIC of salt water was 0.7 M for *S. mutans*, *A. actinomycetemcomitans* and *P. gingivalis* and 0.8M for *L. acidophilus*. There was statistically significant reduction in the plaque scores, salivary *S. mutans*, *L. acidophilus*, *A. actinomycetemcomitans* and *P. gingivalis* count from baseline, pre-rinse to post-rinse in the study group ($p=0.001$) and control group ($p=0.001$). Salt water was as effective as chlorhexidine in reducing dental plaque ($p = 0.19$) and *A. actinomycetemcomitans* ($p = 0.35$) count and while chlorhexidine was superior against *S. mutans* ($p = 0.001$), *L. acidophilus* ($p = 0.001$) and *P. gingivalis* ($p =0.001$).

Conclusion: Salt water rinse can be used as adjunct to routine mechanical plaque control for prevention of oral diseases.

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