Clinical Efficacy on Tooth Sensitivity Relief of SnF Toothpaste

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OBJECTIVE:
To compare the clinical efficacy of a toothpaste containing 0.454% stannous fluoride stabilized with K+ and polyphosphates (SNAP) to a toothpaste containing 0.76% sodium monofluorophosphate (negative control) on dentinal hypersensitivity after brushing twice daily (morning and evening) for 8 weeks.

METHODS:
Prior to the study the clinical protocol was reviewed and approved by IRB. The study had a randomized, double-blind, parallel-group design. Subjects with two hypersensitivity teeth (tactile score: 10-50 g; air blast score: 2-3), participated in the study. They brushed 2X daily with their assigned toothpaste and were assessed using tactile and air blast indices at baseline, 4 and 8 weeks. All statistical tests of hypotheses were two-sided, and employed a level of significance of α=0.05.

RESULTS:
A total of 80 subjects entered and 78 completed the study. At baseline, no statistically significant ($p>0.05$) differences in the tactile and air blast scores between SNAP and negative control groups were indicated. At 4 weeks SNAP and negative control groups showed tactile scores of 23.90 and 13.40, respectively; and air blast scores of 1.54 and 2.75, respectively.
The SNAP group provided statistically significantly ($p<0.05$) greater reductions in dentinal hypersensitivity than the negative control group (tactile: 78.4% and air blast: 44.0%). At 8 weeks the SNAP and negative control groups showed tactile scores of 31.98 and 14.23, respectively; and air blast scores of 1.19 and 2.63, respectively. The SNAP group provided statistically significantly ($p<0.05$) greater reductions in hypersensitivity than the negative control group (tactile: 124.7% and air blast: 54.8%).

CONCLUSION:
The study results demonstrated that a test toothpaste containing 0.454% stannous fluoride stabilized with K+ and polyphosphates (SNAP) provides significant reductions in tactile and air blast hypersensitivity as compared to a toothpaste containing 0.76% SMFP after 4 and 8 weeks of product use.

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