

## KADAR CALCIUM DAN FLUORIDE PADA GIGI INSISIVE SULUNG SETELAH APLIKASI TOPIKAL SODIUM FLUORIDE 5% + TRI- CALCIUM PHOSPHATE (IN VITRO)

**Latarbelakang:** Sodium fluoride 5% + Tri Calcium Phosphate adalah salah satu bahan topikal fluoride yang dapat menghambat terjadinya demineralisasi dan meningkatkan remineralisasi yang aplikasinya harus kontak saliva sehingga komponen tersebut aktif. Paparan saliva mengaktifkan fluoride dan calcium pada permukaan enamel. **Tujuan:** Untuk meneliti efek aplikasi sodium fluoride 5%+Tri Calcium Phosphate terhadap kadar calcium dan fluoride pada gigi sulung setelah demineralisasi. **Metode:** Empat buah mahkota gigi insisive sulung bawah dipotong secara vertikal, dibagi menjadi dua kelompok. Kelompok kontrol: empat potongan gigi yang telah di potong dimasukkan saliva buatan selama 24 jam lalu direndam dalam larutan asam asetat 1 M 5 ml selama 3 hari. Kelompok **perlakuan:** empat potongan gigi telah dipotong diulas dengan bahan topikal sodium fluoride 5%+ tri-calsium phosphate direndam selama 24 jam ke dalam saliva buatan lalu direndam dalam larutan asam asetat 1 M 5 ml selama 3 hari. Setelah diinkubasi, gigi di analisa dengan alat Scanning Electrone Microsope-Energy Dispersive X-ray (Hitachi TM 3000 Japan). **Hasil:** Hasil analisis uji beda di kedua kelompok calcium, terdapat peningkatan nilai calsium yang signifikan ( $p < 0,05$ ) terhadap kelompok perlakuan. Hasil analisis uji beda di kedua kelompok fluoride, didapatkan signifikansi  $p = 0,557$  ( $p \geq 0,05$ ), terdapat perbedaan nilai fluoride yang tidak beda terhadap kelompok perlakuan. **Simpulan:** Setelah aplikasi Sodium fluoride 5% + tri-calcium phosphate terjadi peningkatan pada kadar calcium namun tanpa peningkatan kadar fluoride pada enamel gigi sulung.

**Kata Kunci:** Sodium fluoride, Tri Calcium Phosphate, enamel dan gigi sulung.

**LEVELS OF CALSIUM AND FLUORIDE IN INSISIVE PRIMARY TEETH AFTER TOPICAL APPLICATION OF SODIUM FLUORIDE 5%+ TRI CALSIUM PHOSPHATE (IN VITRO)**

**Background:** Sodium fluoride 5% + Tri Calcium Phosphate is one of topical fluoride material to inhibit the demineralization and enhance remineralization. This applications required saliva contact, for calcium and fluoride activation. **Objective:** This study was aimed to determine effect of topical application of sodium fluoride 5% + tri calsium phosphate on level of calsium and fluoride in primary teeth after demineralization. **Method:** Four crown primary insisive teeth were cut vertically, then divided into two groups. Control groups: 4 dental crown were put in in artificial saliva and soaked in solution of acetic acid 1 M 5 ml for 3 days. Treatment group: sodium fluoride 5% + tri-calcium phosphate applicated on the enamel, put in artificial saliva for 1 day and put in a solution of acetic acid by 1M 5 ml for 3 days. The samples were analyzed by using Scanning Electrone microsope Energy Dispersive X-ray (Hitachi TM 3000 Japan). **Result:** Analysis results, levels of calcium in treatment group significantly higher than control group ( $p < 0.05$ ). Levels of fluoride were not different in both of group ( $p \geq 0,05$ ). **Conclusion:** After application of Sodium Fluoride 5 % + tri-calcium phosphate there were an increase in calcium levels with no differences in the levels of fluoride on enamel of primary teeth.

**Key word:** Sodium fluoride, Tri Calcium Phosphate, Enamel, Primary teeth

