

**KEKERASAN ENAMEL GIGI SULUNG SETELAH APLIKASI TOPIKAL
FLUORIDE *SODIUM FLUORIDE 5% + TRI-CALCIUM PHOSPHATE*
DAN *0,1% DIFLUOROSILANE***

(IN VITRO)

ABSTRAK

Latar Belakang : Topikal fluoride berperan dalam menghambat proses demineralisasi dan meningkatkan proses remineralisasi melalui pembentukan fluoroapatit. Bahan terbaru dari topikal fluoride yaitu *sodium fluoride 5% + TCP* yang berperan menghambat demineralisasi, hal ini mempengaruhi kekerasan permukaan enamel. **Tujuan :** Untuk menguji kekerasan enamel gigi sulung setelah pengaplikasian bahan topikal varnish *0,1% difluorosilane* dan *sodium fluoride 5% +TCP*. **Metode :** Sampel penelitian 8 gigi insisif bawah sulung yang dipotong sebatas *cemento enamel junction* dan dipotong menjadi 2 bagian arah vertikal menjadi 4 kelompok. A1 dan B1 tidak dilakukan aplikasi fluoride, A2 diaplikasikan *0,1% difluorosilane* dan B2 diaplikasikan *sodium fluoride 5% +TCP*. Dimasukkan ke saliva buatan selama 24 jam, lalu dimasukkan ke tabung reaksi berisi asam asetat 5ml diinkubasi selama 3 hari. Sampel dikeluarkan lalu dihitung kekerasan permukaan enamel dengan *micro vickers tester*. **Hasil :** Kelompok yang diaplikasi *sodium fluoride 5% +TCP* lebih tinggi nilai kekerasan permukaan enamel secara signifikan sebesar $622.69 \pm 16.36 \text{ kg/mm}^2$ dibanding dengan *0,1% difluorosilane* $364.89 \pm 12.97 \text{ kg/mm}^2$. **Simpulan :** nilai kekerasan permukaan enamel gigi sulung setelah aplikasi topikal fluoride *sodium fluoride 5% + TCP* lebih tinggi dibandingkan dengan *0,1% difluorosilane*

Kata kunci : kekerasan enamel, *0,1% difluorosilane*, *sodium fluoride 5% + TCP*, gigi sulung.

**MICROHARDNESS OF PRIMARY ENAMEL SURFACE AFTER 0,1%
DIFLUOROSILANE AND SODIUM FLUORIDE 5% + TRI CALCIUM
PHOSPHATE APPLICATION**

(IN VITRO)

ABSTRACT

Background : Fluoride topical has a role in inhibiting demineralization and increasing remineralization process through forming fluoroapatite. The new fluoride formula that is sodium fluoride 5% + TCP inhibit demineralization and it affects the microhardness of enamel surface. **Purpose :** This experimental was aimed to examine microhardness of enamel surface after 0,1% difluorosilane and sodium fluoride 5% + TCP topical application. **Methods :** Samples were 8 primary lower insisivus which were cut in cemento enamel junction and each of sample were cut vertically into two, and grouped into 4. A1 and B1 were control group, no fluoride application needed, A2 was 0,1% difluorosilane application, and B2 was sodium fluoride 5% + TCP application. All samples were put in artificial saliva for 24 hours. Then put in to the asetat acid 5 ml liquid for 3 days incubation. Samples were removed from the tube and dried then calculated the microhardness enamel surface with the micro vickers tester. **Result :** Both of the application groups have higher of microhardness rather than control groups. The sodium fluoride 5% + TCP group has higher microhardness enamel surface in the amount of $622.69 \pm 16.36 \text{ kg/mm}^2$ than 0,1% difluorosilane group in the amount of $364.89 \pm 12.97 \text{ kg/mm}^2$. **Conclusion :** The microhardness enamel surface of primary teeth of sodium fluoride 5% + TCP higher than 0,1% difluorosilane application.

Keywords : microhardness enamel, 0,1% difluorosilane, sodium fluoride 5% + TC, primary teeth