

## INTISARI

Gigi tiruan lepasan resin akrilik merupakan salah satu alternatif perawatan terhadap kehilangan gigi, namun berpotensi menyebabkan karies pada gigi penyangga. Pencegahan karies dapat dilakukan dengan penambahan fluorida dalam pada plat gigi tiruan. Tujuan penelitian ini adalah untuk mengkaji pengaruh waktu perendaman dan aplikasi NaF pada plat gigi tiruan resin akrilik kuring panas berfluorida terhadap pelepasan ion fluor.

Sampel penelitian plat resin akrilik kuring panas diisi NaF 2,27% ukuran 20x15x2,5 mm. Sampel dibagi menjadi 2 kelompok besar yaitu K1 (tanpa penambahan topikal gel), K2 (dengan penambahan topikal gel NaF 2%). Tiap kelompok dibagi dalam 3 kelompok perendaman saliva buatan pH 4 pada pengamatan H1 (1 hari), H7 (7 hari), H14 (14 hari). Pelepasan ion fluor diperiksa menggunakan spektrofotometri. Analisis data menggunakan Anava 2 jalur.

Hasil penelitian menunjukkan pelepasan ion fluor tertinggi pada K2-H14 sebesar 0,97 ppm dan terendah pada K1-H1 sebesar 0,64 ppm. Hasil uji Anava kelompok dengan penambahan aplikasi topikal gel NaF 2% secara bermakna berpengaruh meningkatkan pelepasan ion fluor dengan nilai signifikansi 0,000 ( $p < 0,05$ ). Lama perendaman secara bermakna berpengaruh terhadap peningkatan pelepasan ion fluor dengan nilai signifikan 0,000 ( $p < 0,05$ ). Terdapat interaksi signifikan antara kelompok penambahan topikal gel 2% dengan lama perendaman sebesar 0,009 ( $p < 0,05$ ). Kesimpulan penelitian ini adalah lama perendaman dan aplikasi NaF pada plat resin akrilik kuring panas berfluorida terbukti dapat meningkatkan jumlah pelepasan ion fluor dalam saliva sehingga efektif dalam membantu pencegahan karies pada gigi penyangga.

Kata kunci: fluorida, aplikasi fluorida, resin akrilik kuring panas

## ABSTRACT

Acrylic resin removable dentures are an alternative treatment for tooth loss, but have potential causes caries in supporting teeth. Caries prevention can be done by adding fluoride to the denture plate. The aim of this study was to examine the effect of immersion time and NaF application on heat-cured fluoride acrylic resin denture plates on the release of fluorine ions.

The research sample was a heat cured acrylic resin plate filled with 2.27% NaF measuring 20x15x2.5 mm. Samples were divided into 2 large groups, namely K1 (without topical addition of gel), K2 (with topical addition of 2% NaF gel). Each group was divided into 3 groups immersion in artificial saliva at pH 4 for observations H1 (1 day), H7 (7 days), H14 (14 days). The release of fluorine ions was examined using spectrophotometry. Data analysis using 2-way Anova.

The results showed that the highest release of fluorine ions in K2-H14 was 0.97 ppm and the lowest in K1-H1 was 0.64 ppm. The results of the Anova test for the group with the addition of topical application of 2% NaF gel had a significant effect on increasing the release of fluorine ions with a significance value of 0.000 ( $p < 0.05$ ). The immersion time significantly influenced the increase in the release of fluorine ions with a significant value of 0.000 ( $p < 0.05$ ). There was a significant interaction between the group adding 2% topical gel and the immersion time of 0.009 ( $p < 0.05$ ). The conclusion of this study is that the soaking time and application of NaF on heat-cured fluoride acrylic resin base has been proven to increase the amount of fluorine ion released in saliva so that it is effective in helping prevent caries in supporting teeth.

Key words: fluoride, fluoride application, heat-cured acrylic resin