

INTISARI

Fiber reinforced composite (FRC) adalah salah satu material restorasi gigi yang banyak digunakan karena memiliki sifat estetik dan mekanis yang baik. *Fiber reinforced composite* akan berinteraksi dengan makanan, minuman dan material pembersih rongga mulut. Salah satu material yang digunakan untuk membersihkan rongga mulut adalah *mouthwash* ber-alkohol. Tujuan penelitian ini adalah mengetahui pengaruh lama perendaman dalam larutan *mouthwash* ber-alkohol terhadap *compressive strength* FRC.

Penelitian ini menggunakan *E-glass fiber reinforced composite* (everX Posterior GC, Jepang) dan *mouthwash* ber-alkohol (Listerine Original, Amerika Serikat). Enam belas sampel FRC dibuat silindris (diameter 4 mm dan tinggi 6 mm). Sampel dibagi menjadi empat kelompok perlakuan. Kelompok pertama direndam dalam larutan *mouthwash* ber-alkohol selama 0 jam, kelompok kedua 6 jam, kelompok ketiga 12 jam dan kelompok keempat 24 jam. Nilai *compressive strength* diukur dengan *universal testing machine*. Data yang diperoleh dianalisis menggunakan uji ANAVA.

Hasil penelitian menunjukkan nilai rerata *compressive strength* untuk kelompok 0 jam, 6 jam, 12 jam dan 24 jam secara berurutan adalah 293,59±30,54; 285,43±46,91; 268,71±44,66; dan 252,19±31,49 MPa. Nilai rerata *compressive strength* yang diperoleh menunjukkan kecenderungan penurunan dari kelompok pertama hingga kelompok keempat. Hasil uji ANAVA menunjukkan tidak terdapat pengaruh bermakna dari lama perendaman dalam larutan *mouthwash* ber-alkohol terhadap *compressive strength* FRC ($p>0,05$). Kesimpulan penelitian ini adalah lama perendaman dalam larutan *mouthwash* ber-alkohol menurunkan *compressive strength* FRC namun tidak signifikan.

Kata kunci : *fiber reinforced composite* (FRC), *mouthwash*, *compressive strength*

ABSTRACT

Fiber reinforced composite (FRC) is one of the most widely used dental restoration materials that have good aesthetic and mechanical properties. Fiber reinforced composite will interact with food, beverages and oral cleansing materials after application as restorations. One of the materials used to cleanse the oral cavity is an alcohol contained mouthwash. The purpose of this research is to find out the influence of the length of immersion time in alcohol contained mouthwash solution to compressive strength of FRC.

This study used E-glass fiber reinforced composite (everX Posterior GC, Japan) and alcohol contained mouthwash (Listerine Original, USA). Sixteen FRC samples were made in a cylindrical shape (diameter 4 mm and height 6 mm). Samples were then divided into four treatment groups. The first group was immersed in alcoholic mouthwash solution for 0 hours, second group 6 hours, third group 12 hours and fourth group 24 hours. The compressive strength value was measured by universal testing machine. The data obtained then analyzed using ANOVA test.

The results showed that the mean values of compressive strength for the groups of 0 hours, 6 hours, 12 hours and 24 hours were 293.59 ± 30.54 ; 285.43 ± 46.91 ; 268.71 ± 44.66 ; and 252.19 ± 31.49 MPa. The average value of compressive strength obtained shows a decreasing trend from the first group to the fourth group. The result of ANOVA test showed no significant influence from soaking time in alcohol contained mouthwash solution to compressive strength of FRC ($p > 0,05$). The conclusion of this research is that the length of immersion time in alcohol contained mouthwash solution can decrease the compressive strength of FRC but not significant.

Keywords : *fiber reinforced composite (FRC), mouthwash, compressive strength*