Perbandingan sifat kekerasan material restoratif bioaktif pada saliva buatan dengan pH 4,5 = Comparison of the hardness properties of bioactive restorative materials in artificial saliva with a pH of 4.5

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Abstrak

Tujuan: Penelitian ini bertujuan untuk mengetahui perbandingan pengaruh saliva buatan dengan pH 4,5 terhadap kekerasan dari material restoratif bioaktif. Metode penelitian: Dalam penelitian ini dilakukan penelitian menggunakan material restorative bioaktif, Activa Bioactive (RMGI), Cention-N (RK Alkasit), Fuji II LC (RMGIC), Zirconomer (Zirconia reinforced Glass Ionomer) , dan Beautifill II LS (Giomer). Masing-masing specimen material tersebut dengan ukuran diameter 15 mm dengan tinggi 1 mm direndam dalam saliva buatan pH 4,5 selama 7 hari. Setelah 7 hari, specimen dilakukan uji kekerasan menggunakan Knoop Hardness test dengan 5 jejas per spesimen. Kemudian hasil pengujian dilakukan uji normalitas Shapiro-Wilk, dilanjutkan dengan One-Way Anova. Lalu dilakukan uji homogenitas Levene dan dilanjutkan uji Post-hoc Tamhane. Hasil: Terdapat perbedaan bermakna pada nilai kekerasan di antara material restoratif bioaktif yang diuji (One way anova, p<0,05). Dengan nilai tertinggi pada material Cention-N dan terendah material Activa Bioactive. Pada uji Post-hoc Tamhane didapati perbedaan bermakna, kecuali antara Beautifill II LS dengan Zirconomer. Kesimpulan: Setelah dilakukan perendaman pada saliva dengan pH 4,5, material Cention N memiliki nilai kekerasan tertinggi dan Material Activa yang terendah.
.....Objective: This study aims to compare the effect of artificial saliva with pH 4.5 on the microhardness of bioactive restorative materials. Method: In this study, research was carried out using restorative bioactive materials, Activa Bioactive (RMGI), Cention N (RK Alkasit), Fuji II LC (RMGIC), Zirconomer (Zirconia reinforced Glass Ionomer), and Beautifill II LS (Giomer). Each specimen of the materials are made with a diameter of 15 mm and a height of 1 mm, and were immersed in artificial saliva pH 4.5 for 7 days. After 7 days the material was subjected to a microhardness tester using the Knoop Hardness test with 5 per specimen of materials. Statistic analysis were performed using Shapiro-Wilk normality test, followed by One-Way Anova. Then the Levene homogeneity test was carried out and continued with the Post-hoc Tamhane test. Result: There was a significant difference in the hardness value between bioactive restorative materials (One way ANOVA, p <0.05). With the highest value for the Cention-N material and the lowest for Activa Bioactive material. In the Post-hoc Tamhane test, there was a significant difference, except between Beautifill II LS and Zirconomer. Conclusion: After soaking in saliva with a pH of 4.5, the Cention N material had the highest hardness value and the lowest Activa Material.