

## **Pengaruh Lama Kontak Resin Komposit *Nanofiller* dengan Minuman Jamu Kunyit Asam (*Curcuma Domestica Val.-Tamarindus indica*) Terhadap Perubahan Warna**

### **INTISARI**

Saat ini, minuman jamu kunyit asam telah banyak dikonsumsi masyarakat untuk mengurangi nyeri datang bulan. Resin komposit *nanofiller* merupakan material restorasi yang banyak digunakan karena nilai estetik yang baik, namun terdapat kelemahan yaitu perubahan warna akibat adanya penyerapan air ke dalam matriks dan bahan pengisi secara difusi. Jamu kunyit asam merupakan salah satu faktor ekstrinsik yang dapat menyebabkan perubahan warna melalui zat warna kurkumin. Tujuan penelitian ini ialah mengetahui lama kontak jamu kunyit asam terhadap perubahan warna resin komposit *nanofiller*.

Penelitian dilakukan pada 6 resin komposit *nanofiller* berbentuk persegi dengan ukuran 15 mm dan tebal 2 mm. Spesimen direndam dalam akuades dengan suhu 37°C selama 24 jam dan diukur nilai awal dengan alat *chromameter*. Spesimen direndam dalam larutan jamu kunyit asam selama 5 jam, 10 jam, dan 15 jam secara serial dan diukur nilai akhir perubahan warna dengan alat *chromameter*. Parameter pengukuran warna menurut sistem L\*a\*b\* diukur menggunakan *chromameter* sebelum dan setelah perlakuan. Data perubahan warna dihitung kemudian dianalisis dengan uji *one way ANOVA*.

Nilai  $\Delta E$  : L\*a\*b\* rerata dan standar deviasi setelah perendaman selama 5 jam :  $15,93 \pm 1,23$ , perendaman 10 jam :  $18,18 \pm 0,72$  dan perendaman selama 15 jam :  $20,39 \pm 0,86$ . Hasil uji *one way ANOVA* didapatkan hasil nilai  $F = 32,39$  dengan  $p > 0,05$ . Uji LSD semua kelompok berbeda bermakna. Kesimpulan dari penelitian ini adalah lama waktu kontak minuman jamu kunyit asam (*Curcuma domestica Val – Tamarindus indica*) berpengaruh terhadap perubahan warna resin komposit *nanofiller*.

Kata Kunci : resin komposit *nanofiller*, jamu kunyit asam, perubahan warna.

***The Effect of Contact Time of Nanofiller Composite Resin with Turmeric Tamarind Drink (*Curcuma domestica* Val.-*Tamarindus indica*) on Color Change***

**ABSTRACT**

Nowadays, turmeric tamarind drink has been consumed by many people to reduce menstrual pain. Nanofiller composite resin is a restorative material that has been widely used because of its good aesthetic value, but there is a weakness, that is discoloration due to absorption of water into the matrix and filler material by diffusion. Turmeric tamarind drink is one of the extrinsic factors that can cause discoloration through curcumin. The purpose of this study was to determine the contact time of turmeric tamarind drink to the color change of nanofiller composite resin.

This research used 6 samples of square-shaped nanofilled composite resins with a size of 15 mm and 2 mm thickness. The specimens were immersed in aquadest at 37°C for 24 hours and the initial values were measured using a chromameter. Specimens were immersed in turmeric tamarind drink for 5 hours, 10 hours, and 15 hours serially and the color change was measured using a chromameter. Color measurement parameters according to the  $L^*a^*b^*$  system were measured using a chromameter before and after treatment. The data of color change data was calculated and analyzed using one way ANOVA test.

$\Delta E$  value:  $L^*a^*b^*$  mean and standard deviation after 5 hours of immersion:  $15.93 \pm 1.23$ , 10 hours of immersion:  $18.18 \pm 0.72$  and 15 hours of immersion:  $20.39 \pm 0.86$ . The results of the one way ANOVA test obtained the results of the value of  $F = 32.39$  with  $p > 0.05$ . The LSD test for all groups has a significant difference. The conclusion of this study is that the contact time of turmeric tamarind drink (*Curcuma domestica* Val – *Tamarindus indica*) affects the color change of nanofiller composite resin.

**Keywords:** Nanofilled composite resin, turmeric tamarind drink, discoloration.