

## Pengaruh gel ekstrak daun sirih terhadap perubahan warna email gigi : penelitian eksperimental laboratorik = The effect of gel with betel leaf extract to color change of tooth enamel

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### Abstrak

Latar belakang: Gel ekstrak daun sirih memiliki kandungan tanin yang merupakan agen kromogenik yang dapat memberikan efek diskolorasi ekstrinsik pada email gigi.

Tujuan: Mengetahui perbedaan pengaruh gel ekstrak daun sirih terhadap perubahan warna email gigi akibat.

Metode: Delapan belas spesimen gigi premolar manusia dibagi menjadi tiga kelompok perlakuan, yaitu aplikasi gel ekstrak daun sirih konsentrasi 15% (n=6), 25% (n=6), dan 35% (n=6), serta pengukuran nilai warna dilakukan tiap 1 bulan (5 kali aplikasi), 3 bulan (15 kali aplikasi), dan 6 bulan (26 kali aplikasi) menggunakan VITA Easyshade®. Perhitungan perubahan warna dilakukan dengan rumus CIEL\*a\*b\*.

Hasil: Dari uji statistik Repeated ANOVA, terdapat perbedaan perubahan warna yang bermakna antar lamanya aplikasi gel ekstrak daun sirih 1, 3, dan 6 bulan.

Kesimpulan: Pengaplikasian gel ekstrak daun sirih dapat meningkatkan perubahan warna email gigi seiring dengan lamanya aplikasi.

*Background: Gel with betel leaf extract contains tannin that a chromogenic agent which gives extrinsic discoloration effect on tooth enamel.*

*Objectives: To determine the effect of gel with betel leaf extract to the color change of tooth enamel.*

*Methods: Eighteen specimens of premolar teeth were divided into three groups, namely betel leaves extract gel application with concentrations of 15% (n=6), 25% (n=6), and 35% (n=6). The measurement of color value performed before application, 1 month (5 times of applications), 3 months (15 times of applications), and 6 months (26 times of applications) using VITA Easyshade®. The calculation of discoloration was calculated by the CIEL\*a\*b\* formula.*

*Result: From statistical test (Repeated ANOVA), there was a significant color change among length of betel leaf extract gel applications 1, 3, and 6 months.*

*Conclusion : Application of betel leaf extract gel could increase the color change of tooth enamel along with the length of the application.*