

**PENGARUH *DENTURE CLEANSER* TERHADAP KEKUATAN  
TRANSVERSAL PLAT DASAR *COLD-CURED* ALAT ORTODONSI  
LEPASAN**

**INTISARI**

Kekuatan transversal dapat ditemukan pada saat dilakukan pemasangan dan pelepasan alat ortodonsi lepasan dari rongga mulut. *Cold-cured* merupakan bahan pilihan utama plat dasar alat ortodonsi lepasan. *Denture cleanser* dapat digunakan untuk membersihkan alat ortodonsi lepasan. Penelitian ini bertujuan untuk mengetahui pengaruh *denture cleanser* terhadap kekuatan transversal plat dasar *cold-cured* alat ortodonsi lepasan.

Penelitian dimulai dengan mencetak *cold-cured* berbentuk persegi panjang (60mm × 10mm × 2mm) menggunakan cetakan berbahan akrilik. Subjek penelitian dibuat sebanyak 20 buah berdasarkan rumus penentuan jumlah sampel untuk membandingkan rerata 2 kelompok. Subjek penelitian dibagi menjadi dua kelompok (n=10). Plat *cold-cured* kelompok perlakuan direndam dalam *denture cleanser*, dan plat *cold-cured* kelompok kontrol direndam dalam akuades. Perendaman dilakukan selama 5 menit sebanyak 30 kali per hari, kemudian disimpan dalam saliva buatan dengan suhu 37° C. Prosedur perendaman diulang selama 3 hari, kemudian diuji kekuatan transversal dengan *three point bend test* menggunakan *universal testing machine*. Data yang didapat kemudian dianalisis menggunakan *Independent T-test*.

Plat *cold-cured* yang direndam *denture cleanser* menunjukkan penurunan kekuatan transversal yang signifikan ( $p < 0,05$ ). Kesimpulan penelitian ini adalah *denture cleanser* menurunkan kekuatan transversal plat dasar *cold-cured* alat ortodonsi lepasan.

Kata Kunci: *Denture cleanser*, *cold-cured*, kekuatan transversal

## **THE EFFECT OF DENTURE CLEANSER ON TRANSVERSAL STRENGTH OF COLD-CURED REMOVABLE ORTHODONTIC APPLIANCES BASE PLATE**

### **ABSTRACT**

Transversal strength can be found during insertion and removal of removable orthodontic appliances from the oral cavity. Cold-cured is the first choice material for base plate of removable orthodontic appliances. Removable orthodontic appliances can be disinfected using denture cleanser. The aim of this experiment is to know the effect of denture cleanser on transversal strength of cold-cured removable orthodontic appliances base plate.

The experiment started with molding rectangular plate shaped cold-cured (60mm × 10mm × 2mm) using acrylic mold. Subject of experiment was made to the number of 20 according to sample size calculation to compare 2 means formula. Subjects of experiment were splitted into 2 groups (n=10). The *cold-cured* plates from treatment group were immersed in denture cleanser and the *cold-cured* plates from control group were immersed in aquades. The immersion duration was 5 minutes for 30 times each day, then being stored in artificial saliva with the temperature of 37°C. The immersion procedure was repeated for 3 days, then being tested for transversal strength with three point bend test using universal testing machine. Data obtained is being analyzed using Independent T-test.

Cold-cured plate which is being immersed in denture cleanser showed significantly decrease of transversal strength ( $p < 0,05$ ). The conclusion of this experiment is denture cleanser decrease the transversal strength of cold-cured removable orthodontic appliances base plate.

Keywords: Denture cleanser, cold-cured, transversal strength