

ABSTRAK

Ramadani, Irna Kurnia. 2015. *Pengaruh Penambahan Pati Jagung (Zea mays) Terhadap Perubahan Stabilitas Dimensi Bahan Cetak Alginat*. Tugas Akhir, Fakultas Kedokteran Universitas Brawijaya. Pembimbing: (1.) Diwya Nugrahini, drg., Sp. Pros. (2.) Delvi Fitriani, drg., M. Kes.

Bahan cetak banyak digunakan dalam bidang kedokteran gigi untuk mencatat dan mereproduksi bentuk dari jaringan keras dan jaringan lunak rongga mulut secara akurat. Alginat banyak digunakan karena mudah dimanipulasi, nyaman bagi pasien, dan tidak memerlukan banyak peralatan namun harganya relatif mahal karena diimpor. Salah satu cara penghematan alginat adalah menambahkan pati jagung yang mengandung amilosa dan amilopektin yang dapat menyerap air dan mengembang sehingga perubahan stabilitas dimensi model diagnostik dari cetakan alginat dapat minimal. Tujuan penelitian ini adalah mengetahui pengaruh penambahan pati jagung (*Zea mays*) terhadap perubahan stabilitas dimensi bahan cetak alginat. Penelitian ini menggunakan *Post Test Only Control Group Design* dengan sampel hasil cetakan alginat dan alginat campuran pati jagung dengan perbandingan 2:1 yang langsung diisi gipsium dan dengan penundaan waktu 10 menit, 20 menit, dan 30 menit. Hasil penelitian menunjukkan tidak ada perbedaan besar jarak dan diameter silinder antara model hasil cetakan alginat murni dan alginat campuran pati jagung. Uji One-Way ANOVA menunjukkan nilai signifikansi jarak 1,000 dan nilai signifikansi diameter 1,000 ($p < 0,05$), tidak terdapat perbedaan yang signifikan antara hasil cetakan alginat murni dan alginat campuran pati jagung terhadap stabilitas dimensi bahan cetak alginat. Kesimpulan pada penelitian ini yaitu tidak terdapat pengaruh penambahan pati jagung (*Zea mays*) terhadap perubahan stabilitas dimensi bahan cetak alginat.

Kata Kunci: stabilitas dimensi, pati jagung, bahan cetak alginat

ABSTRACT

Ramadani, Irna Kurnia. 2015. *Effect of Corn Starch (Zea mays) Addition to Dimension Stability of Alginate Impression Material*. Final Assignment. Medical Faculty of Brawijaya University. Supervisors: (1.) Diwya Nugrahini, drg., Sp. Pros. (2.) Delvi Fitriani, drg., M. Kes.

Impression material widely used in dentistry to record and reproduce an accurate anatomy of hard and soft tissue in oral region. Alginate as an impression material is frequently used due to its advantage of easily manipulated, comfortable for the patient and its simple preparation. Despite its advantage, alginate is considered expensive due to supplies which were imported. One way to achieve efficient alginate usage is to add corn starch. Corn starch contains amylose and amylopectin which have water absorbent property and could be added into alginate impression material. The purpose of this research is to assess the effect of corn starch addition to dimension stability of alginate impression material. This research used *Post Test Only Control Group Design*. Gypsum casting completed without delay and with 10, 20, and 30 minutes delay on pure alginate and alginate with corn starch addition in 2:1 composition. The results revealed that there is no significant difference in distance and diameter between casted model through pure alginate and alginate with corn starch addition. One-Way ANOVA test showed significance value in distance and diameter ($p < 0,05$), that there is no significant difference between pure alginate and alginate with corn starch addition to affect dimension stability of alginate impression material. This lead to conclusion that there is no effect on corn starch addition to affect dimension stability of alginate impression material.

Keywords: dimension stability, corn starch, alginate impression material