

INTISARI

Cengkeram pada gigi tiruan secara konvensional terbuat dari logam *alloy*, namun sebagian besar pemakai gigi tiruan tidak menyukai cengkeram berwarna logam karena mengganggu estetika. Material termoplastik nilon poliamida merupakan salah satu material untuk pembuatan cengkeram nonmetal. Poliamida sendiri terdiri dari berbagai jenis, seperti poliamida 12 dan poliamida mikrokristalin. Salah satu permasalahan pada gigi tiruan ialah adanya porositas. Porositas merupakan terbentuknya rongga pada permukaan gigi tiruan. Porositas dapat menyebabkan gigi tiruan rentan terhadap diskolorasi, deposisi kalkulus, dan perlekatan substansi. Tujuan penelitian ini adalah untuk mengkaji perbandingan porositas perlekatan material cengkeram nonmetal pada tiga jenis termoplastik nilon dengan kombinasi kerangka logam *Co-Cr*.

Penelitian ini dilakukan dengan penelitian eksperimental laboratoris. Sampel terbagi menjadi 6 kelompok ($n = 4$): kelompok 1 berupa poliamida 12 Valplast kombinasi *Co-Cr*, kelompok 2 berupa poliamida mikrokristalin BIO TONE kombinasi *Co-Cr*, kelompok 3 berupa poliamida mikrokristalin Vertex ThermoSens kombinasi *Co-Cr*, serta 3 kelompok kontrol yang terdiri dari kelompok 4 berupa poliamida 12 Valplast, kelompok 5 berupa poliamida mikrokristalin BIO TONE, dan kelompok 6 berupa poliamida mikrokristalin Vertex ThermoSens. Porositas diamati menggunakan mikroskop stereo. Data dianalisis menggunakan *one way* ANOVA.

Hasil penelitian menunjukkan bahwa terdapat perbedaan porositas perlekatan material cengkeram nonmetal pada tiga jenis termoplastik nilon dengan kombinasi kerangka logam *Co-Cr* dengan hasil uji *one way* ANOVA ($p < 0,05$). Kesimpulan penelitian ini ialah terdapat perbedaan porositas perlekatan material cengkeram nonmetal pada tiga jenis termoplastik nilon dengan kombinasi kerangka logam *Co-Cr*. Poliamida mikrokristalin kombinasi *Co-Cr* menghasilkan porositas yang paling sedikit. Poliamida 12 kombinasi *Co-Cr* menghasilkan porositas yang paling banyak.

Kata Kunci: Termoplastik Nilon, Kerangka Logam *Co-Cr*, Porositas

ABSTRACT

The clasp denture is conventionally made of alloy metal, but most denture wearers did not like metal-colored clasp because it interferes with aesthetics. Polyamide nylon thermoplastic material is one of the materials for the manufacture of nonmetal clasp. Polyamide itself consists of various types, such as polyamide 12 and polyamide microcrystalline. One of the problems with denture is porosity. Porosity is the formation of cavities on the surface of denture. Porosity can cause denture to be prone to discoloration, calculus deposition, and substance attachment. The purpose of this study was to examine the porosity of attachment of nonmetal clasp material in three types of nylon thermoplastics with a combination of *Co-Cr* metal frames.

This study was conducted with laboratory experimental research. The sample was divided into 6 groups ($n = 4$): group 1 was the polyamide 12 Valplast combination of *Co-Cr*, group 2 was the polyamide microcrystalline BIO TONE combination of *Co-Cr*, group 3 was the polyamide microcrystalline Vertex ThermoSens combination of *Co-Cr*, and 3 control groups consisted of group 4 was the polyamide 12 Valplast, group 5 was the polyamide microcrystalline BIO TONE, and group 6 was the polyamide microcrystalline Vertex ThermoSens. Porosity is observed using a stereo microscope. Data were analyzed using one way ANOVA.

The results showed that there was a difference in porosity of attachment of nonmetal clasp material in three types of nylon thermoplastics with combination of *Co-Cr* metal frames with the result of one way ANOVA test ($p < 0,05$). The conclusion of this study is there are differences porosity of attachment of nonmetal clasp material in three types of nylon thermoplastics with combination of *Co-Cr* metal frames. Polyamide microcrystalline combination *Co-Cr* produces the least porosity. Polyamide 12 combination *Co-Cr* produces the most porosity.

Keywords : Nylon Thermoplastic. *Co-Cr* Metal Frame, Porosity