

## INTISARI

Resin komposit *nanofiller* merupakan material restorasi yang sering digunakan pada saat ini karena memiliki nilai estetik serta mekanis yang tinggi. Resin komposit *nanofiller* memiliki kekurangan berupa rendahnya resistensi terhadap perubahan warna dan degradasi permukaan. Kegiatan menyikat gigi dapat mengabrasi permukaan resin komposit sehingga mengakibatkan perubahan kekasaran, warna, dan kekerasan resin komposit. Tujuan *narrative review* ini untuk mengetahui efek positif maupun negatif yang ditimbulkan sebagai hasil menyikat gigi terhadap pewarnaan dan kekerasan pada resin komposit *nanofiller*.

*Database* yang digunakan untuk pencarian literatur dalam karya tulis ini yaitu *ClinicalKey, Cochrane Library, Elsevier, Google Scholar, Oxford Journals, SAGE Journals, Science Direct, SpringerLink, Pubmed, Medline*. Pencarian pustaka menggunakan kata kunci *dental nanofiller composite AND surface roughnes, dental nanofiller composite AND hardness, composite resin AND discoloration, nanofiller composite restoration AND discoloration, toothbrush AND composite nanofiller, brushing teeth AND composite nanofiller color stability, brushing teeth AND composite nanofiller hardness*. Pustaka diseleksi menggunakan kriteria inklusi dan eksklusi sehingga diperoleh 5 buku dan 62 jurnal.

Frekuensi menyikat gigi dapat menyebabkan perubahan warna dan kekerasan pada resin komposit *nanofiller* sebagai efek abrasi yang ditimbulkan dari gesekan pasta gigi dan sikat gigi terhadap permukaan resin komposit. Akibat proses abrasi berupa peningkatan terjadinya perubahan warna karena air dan zat warna berpenetrasi pada celah antara matriks-*filler*. Perubahan warna resin komposit dapat menyebabkan penurunan tingkat kekerasan resin komposit karena air yang terletak pada celah di antara matriks-*filler* berperan sebagai *plasticizer*.

Kata kunci: resin komposit, menyikat gigi, diskolorasi, kekerasan

## ABSTRACT

Nanofiller composite resin are common used material restoration at this present because it has high aesthetic and mechanical values. Nanofiller composite resins has the disadvantage of low resistance to discoloration and surface degradation. Tooth brushing activities can abrasive the surface of the composite resin resulting in changes in roughness, color, and hardness of the composite resin. The purpose of this narrative review is to determine the positive and negative effects as a result of brushing teeth on staining and hardness of the nanofiller composite resin.

The databases used to search for the literature in this paper are ClinicalKey, Cochrane Library, Elsevier, Google Scholar, Oxford Journals, SAGE Journals, Science Direct, SpringerLink, Pubmed, Medline. The literature search used the keywords dental nanofiller composite AND surface roughnes, dental nanofiller composite AND hardness, composite resin AND discoloration, nanofiller composite restoration AND discoloration, toothbrush AND composite nanofiller, brushing teeth AND composite nanofiller color stability, brushing teeth AND composite nanofiller hardness. The literature was selected using inclusion and exclusion criteria until obtain 5 books and 62 journals.

Frequency of brushing teeth can cause discoloration and hardness of the nanofiller composite resin as an abrasion effect caused by the friction of toothpaste and toothbrush against the surface of the composite resin. The result of the abrasion process is an increase in the occurrence of discoloration due to water and the dye has a penetrating in the gap between the matrix-filler. The discoloration of the composite resin can cause a decrease in the hardness level of the composite resin because the water in the gap between the matrix-filler acts as a plasticizer.

Key words: composite resin, tooth brushing, discoloration, hardness