

## Abstract

**Title:** The effect of cigarette smoke on the color stability of ceramics and dental composites

**Introduction:** Smoking in its various forms is the cause of 75% of deaths due to oral and pharyngeal cancer and also causes more than 50% of cases of periodontitis and other oral conditions in humans. However, a significant number of people in different societies continue this harmful habit. Smoking also increases the roughness and discoloration of acrylic and porcelain teeth. Discoloration of porcelain teeth, which disrupts beauty, is one of the negative effects of smoking.

Therefore, in this study, let us investigate the color stability of dental composites and ceramics against secondhand smoke.

**Materials & Methods** 40 round specimens with dimensions of 5 mm \* 1 mm were prepared in 4 groups. The specimens were made of porcelain and composite, so that the porcelain samples were placed in oven at 910 ° C (v) for shufo and at 880 degrees for (13 vm vita) and also for (GC) and (vita) composites was cooked and prepared for testing with Vita enamel polishing set and kept in dark containers with artificial saliva at  $37 \pm 1$  ° C for 24 hours, then the samples were placed in a glass box and then Marlboro cigarette smoke through a suction device. The intruder entered the box space and after the smoke entered the space, it gradually came out through the chimney. Each period lasted 10 minutes. This was repeated 10 times a day for 6 weeks.

**Results:** Color change was seen in all samples of porcelain and composite, the amount of this color change of porcelain in Vita brand is less than Shuffo, but in composite, the amount of color change in vita brand is less than Gc. In comparison between the discoloration caused by cigarette smoke, no significant difference was observed between porcelain and composite.

**Conclusion:** Transparent shades of tested composites and ceramic porcelains were more sensitive to discoloration than enamel shades.

**Key words:** Dental composite, cigarettes, dental ceramics, color stability