

Effect of Routinely Consumed Drinks on Polished and Glazed Porcelain Surfaces

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Abstract

Aim: Evaluation of the effect of routinely consumed drinks like tea, coffee, milk, carbonated drinks and packaged drinking water on the polished and glazed surfaces of porcelain, using profilometry and also by Scanning Electron Microscopy (SEM). **Methods:** Polished and overglazed ceramic discs were subjected to 'Contact stylus profilometry'. The average 'Ra' values were calculated for 100 discs before and after exposure to these drinks i.e. Tea, Coffee, Milk, Carbonated beverage and packaged drinking water. The pH values of these drinks were recorded using digital pH meter. **Results:** The effect of carbonated beverage was maximum on surface roughness values of both polished and glazed ceramic discs. SEM revealed that glazed ceramics have smoother surface morphology than the polished ones. The ceramic discs exposed to tea and coffee showed stains which were observed more on polished surfaces than on glazed ones. Surfaces exposed to carbonated drink shows roughest surfaces with pits and stains. **Conclusion:** Carbonated drinks have comparatively higher percentage changes in surface roughness of both glazed and polished ceramic surfaces. Packaged drinking water doesn't have any effect. More acidic pH of carbonated drink exhibits more erosion of the surface of ceramic discs.