

The fractional urinary fluoride excretion of adults consuming naturally and artificially fluoridated water and the influence of water hardness: A randomized trial

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Aims To assess whether there was any significant difference in the average fractional urinary fluoride excretion (FUFE) values among adults consuming (NaF) fluoridated Ca-free water (reference water), naturally fluoridated hard water and an artificially (H₂SiF₆) fluoridated soft water. **Design** Sixty adult females (N=20 for each treatment) participated in this randomized, double-blind trial. The experimental design of this study provided an indirect estimation of the fluoride absorption in different types of water through the assessment of the fractional urinary fluoride excretion of volunteers. **Results** Average daily FUFE values (daily amount of fluoride excreted in urine/daily total fluoride intake) were not significantly different between the three treatments (Kruskal-Wallis; $p = 0.62$). The average 24-hour FUFE value (n=60) was 0.69; 95% C.I. 0.65-0.73. **Conclusions** The results of this study suggest that the absorption of fluoride is not affected by water hardness. © BASCD 2009.