

Effects of vitamin D2-fortified bread v. supplementation with vitamin D2 or D3 on serum 25-hydroxyvitamin D metabolites: an 8-week randomised-controlled trial in young adult Finnish women - DTU Orbit (08/11/2017)

Effects of vitamin D2-fortified bread v. supplementation with vitamin D2 or D3 on serum 25-hydroxyvitamin D metabolites: an 8-week randomised-controlled trial in young adult Finnish women

There is a need for food-based solutions for preventing vitamin D deficiency. Vitamin D3 (D3) is mainly used in fortified food products, although the production of vitamin D2 (D2) is more cost-effective, and thus may hold opportunities. We investigated the bioavailability of D2 from UV-irradiated yeast present in bread in an 8-week randomised-controlled trial in healthy 20–37-year-old women (n 33) in Helsinki (60°N) during winter (February–April) 2014. Four study groups were given different study products (placebo pill and regular bread=0 µg D2 or D3/d; D2 supplement and regular bread=25 µg D2/d; D3 supplement and regular bread=25 µg D3/d; and placebo pill and D2-biofortified bread=25 µg D2/d). Serum 25-hydroxyvitamin D2 (S-25(OH)D2) and serum 25-hydroxyvitamin D3 (S-25(OH)D3) concentrations were measured at baseline, midpoint and end point. The mean baseline total serum 25-hydroxyvitamin D (S-25(OH)D=S-25(OH)D2+S-25(OH)D3) concentration was 65.1 nmol/l. In repeated-measures ANCOVA (adjusted for baseline S-25(OH)D as total/D2/D3), D2-bread did not affect total S-25(OH)D (P=0.707) or S-25(OH)D3 (P=0.490), but increased S-25(OH)D2 compared with placebo (P

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