Intake and sources of gluten in 20- to 75-year-old Danish adults - DTU Orbit (03/03/2019)

Intake and sources of gluten in 20- to 75-year-old Danish adults: a national dietary survey

PURPOSE: Celiac disease, an immunological response triggered by gluten, affects ~1 % of the Western population. Information concerning gluten intake in the general population is scarce. We determined intake of gluten from wheat, barley, rye and oat in the Danish National Survey of Diet and Physical Activity 2005-2008. The study population comprised a random cross-sectional sample of 1494 adults 20-75 years, selected from the Danish Civil Registration System.

METHODS: Protein content in wheat, rye, barley and oat was determined from the National Danish Food Composition Table and multiplied with the amount of cereal used in recipes. Amount of gluten was calculated as amount of cereal protein ×0.80 for wheat and oat, ×0.65 for rye and ×0.50 for barley. Dietary intake was recorded daily during seven consecutive days in pre-coded food diaries with open-answer possibilities. RESULTS: Mean total gluten intake was 10.4 ± 4.4 g/day (10th-90th percentiles; 5.4-16.2 g/day), in men 12.0 ± 4.6 g/day and 9.0 ± 3.4 g/day in women. It was higher among men than among women in all age groups (20-75 years; P <0.0001); however, this difference was eliminated when adjusting for energy intake. Intake of different gluten sources tended to be higher in men than in women with the exception of gluten from barley. Total gluten intake decreased with increasing age (P <0.0001) as did gluten intake from wheat (P <0.0001), whereas intake of gluten from rye (P <0.0001) and barley (P = 0.001) increased with increasing age, also when adjusted for energy intake or body weight. CONCLUSION: This study presents representative population-based data on gluten intake in Danish adults. Total gluten intake decreased with increasing age.

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