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Habitual iodine intake in pregnant Irish women

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Iodine deficiency is the single most important preventable cause of impaired neurological development[1]. There is an absence of data on iodine intake in pregnant women in the republic of Ireland, and recent studies highlight women of child-bearing age (WCBA) as the most at risk sub-group for iodine deficiency[2]. This study aimed to estimate the habitual iodine intake of pregnant women participating in a randomised controlled trial of Vitamin D[3] Participants (n = 156) provided vitamin D intake data at baseline (⩽18 weeks' gestation) using a quantitative food frequency questionnaire (FFQ) validated for vitamin D and calcium intakes[4] As the sources of vitamin D and calcium and the sources of iodine overlap considerably, iodine intakes in the current study were calculated by applying food composition data from COFIDs (7th edition) and the Food Safety Authority of Ireland[5] to the food intake data. Mean (SD) iodine intake was 303 (125) μg/d and was significantly higher among iodine containing supplement-users (348 (110) μg/d) than non-users (255 (110) μg/d) ($p<0.005$). The key contributor to iodine intake was cow's milk (43%). Among consumers, iodine-containing supplements were the second highest contributor to iodine intake (30%). Other important sources of iodine included eggs (5%), breakfast cereals (5%), yogurt (4%), fish (3%), cheeses (3%), cereal bars (3%) and meat (2%). The prevalence of iodine intakes below the UK RNI (140μg/d) was 10% (25% of non-users; 1% supplement users). Four percent were below the LRNI (70μg/d). Twelve percent did not meet the IOM EAR (160 μg/d) for pregnant women (32% non-users; 1% supplement users). Seventeen percent of the cohort did not meet the EFSA AI (200μg/d) (39% of non-users; 4% of supplement users). Few participants (3%) had iodine intakes above the EFSA tolerable upper intake level (UL) (4% supplement users vs 2% non-users). Iodine intake in this study (303 (125) μg/d) was high, likely due to high iodine supplement consumption; 64% consumed a supplement designed to support pregnancy. The majority of those with intakes below the IOM EAR were not consuming an iodine containing supplement. Up to date estimates of iodine status in a large pregnancy cohort in the republic of Ireland is required, and development and validation of an iodine specific FFQ is needed, to screen for iodine deficiency in early pregnancy.

References

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