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Has the iodine status, knowledge and practices of pregnant Australian women improved since mandatory bread fortification?

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Abstract

Abstract of poster that presented at the 20th International Congress of Nutrition: Granada, Spain, September 15-20, 2013.

Keywords

australian, women, improved, pregnant, since, practices, fortification, bread, mandatory, has, knowledge, iodine, status

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HAS THE IODINE STATUS, KNOWLEDGE AND PRACTICES OF PREGNANT AUSTRALIAN WOMEN IMPROVED SINCE MANDATORY BREAD FORTIFICATION?

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Background and objectives: In order to address the population-level mild iodine deficiency in Australia, a mandatory iodine fortification program of salt used in bread-making was introduced in the country in late 2009. To date, there has been no assessment of the effectiveness of the program.

Methods: A before-after quasi-experimental study was conducted to assess changes in median urinary iodine concentration (MUIC) measurements, according to supplement use, in pregnant women attending a public antenatal clinic in a regional area of New South Wales, Australia in 2008 (n = 139), 2011 (n = 147) and 2012 (n = 114). Knowledge and practices related to iodine nutrition were investigated in the 2012 sample using a self-administered questionnaire and dietary iodine intake evaluated using a validated iodine-specific food frequency questionnaire.

Results: The mild to moderate iodine deficiency that was confirmed pre-fortification (MUIC (IQR) = 87.5 (62, 123.5) has steadily improved to 145.5ug/L (91, 252) in 2011 and 166 (97, 237) in 2012 (sufficiency $\geq 150\mu\text{g/L}$). However, only those women taking supplements containing iodine had MUIC indicative of sufficiency in both years surveyed post fortification (178ug/L vs. 109 ug/L; $P < 0.001$ (2011) and 202 $\mu\text{g/L}$ vs. 124 $\mu\text{g/L}$; $P < 0.05$ (2012). Despite bread being the vehicle for iodine fortification, dairy foods remained the major contributor to total iodine intake (58 %). Overall knowledge regarding health implications of iodine deficiency and identification of iodine rich food sources was poor.

Conclusions: Iodine status of women has improved since the introduction of mandatory iodine fortification; however supplementation is indicated during pregnancy.

Key words: iodine, fortification, pregnancy, supplementation