

The impact of nutritional supplement use on the prevalence of inadequate micronutrient intakes in 18–64 year old Irish adults

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The objective of this study was to investigate the influence of nutritional supplement use on the prevalence of inadequate micronutrient intakes in Irish adults aged 18–64 years. Analysis was based on the National Adult Nutrition Survey (NANS) (2008–2010), which was carried out to establish a database of habitual food and drink consumption in a representative sample of 18–64 year old Irish adults ($n = 1274$). A 4 day semi-weighed food record was used to collect food intake data and analysis was carried out using WISP[®] (Tinuviel Software, Anglesey, UK), which is based on *McCance and Widdowson's The Composition of Foods, Sixth Edition*⁽¹⁾ and the Irish Food Composition Database⁽²⁾. The database was updated to include all nutritional supplements recorded by participants in the food diary. A supplement user was defined as a respondent who consumed a nutrient containing supplement over the 4-day recording period. For selected micronutrients, the percentage of individuals with intakes less than the UK estimated average requirement (EAR)⁽³⁾ are reported. For vitamin D, the IOM EAR⁽⁴⁾ of 10 µg and cut-offs of 5 µg and 1 µg were used to assess adequacy. Under-reporters were excluded from the analysis. Minimum energy intakes cut off points⁽⁵⁾ (Goldberg *et al.*, 1991), calculated as multiples of BMR (Tanita BC 420MA Body Composition Analyser) were used to identify under-reporters.

Micronutrient	EAR	Supplement Users (All Sources)		Supplement Users (Food Sources)		Non-Users (Food Sources)	
		Males ($n = 105$)	Females ($n = 152$)	Males ($n = 105$)	Females ($n = 152$)	Males ($n = 343$)	Females ($n = 289$)
Calcium	750 mg (males, 18y) 625 mg (females, 18y) 525 mg (19y +)	1	9	% < EAR		4	10
Iron	8.7 mg (males, 18y) 11.4 mg (females, 18–50y) 6.7 mg (males, 19y +) 6.7 mg (females, 50y +)	0	25	0	40	2	49
Magnesium	250 mg (males) 250 mg (females, 18y) 200 mg (females, 19y +)	6	11	8	15	13	19
Zinc	7.3 mg (males, 18y +) 5.5 mg (females, 18y +)	5	3	7	5	9	11
Vitamin A	500 µg (males, 18y +) 400 µg (females, 18y +)	7	6	14	10	21	14
Vitamin D	10 µg (18 y +) 5 µg (18 y +) 1 µg (18 y +)	71 35 1	83 57 3	97 74 2	99 86 6	98 82 8	98 87 13

Nutritional supplements reduced the % of users with inadequate intakes for iron (females only), vitamin A (males only) and vitamin D (both males and females) in 18–64 year old Irish adults. Users of nutritional supplements had a lower prevalence of inadequate intakes compared to non-users for iron (females only) and vitamins A and D.

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