

Intakes and sources of vitamin B₁₂ in a nationally representative sample of children and teenagers (5–18 years) in Ireland

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Vitamin B₁₂ has an important role in the development of red-blood cells, DNA, brain and nerve cells⁽¹⁾. An increase in the popularity of plant-based diets may increase the risk of vitamin B₁₂ deficiency due to its main dietary sources being animal-based products. This may be of particular importance in vulnerable groups such as children and teenagers who are undergoing rapid growth and development. Therefore, the aim of this study was to estimate current intakes and sources of vitamin B₁₂ in children and teenagers in Ireland. Analyses are based on data from two nationally representative food consumption surveys of children and teenagers in the Republic of Ireland; the National Children's Food Survey II (n = 600) (2017–18) and the National Teens' Food Survey II (n = 428) (2019–20) (www.iuna.net). Food and beverage intake data (including nutritional supplements) were collected using a 4-day weighed food record. Nutrient intakes were estimated using Nutritics[©] based on UK and Irish food composition data and usual intakes of vitamin B₁₂ were calculated via the NCI-method using SAS[©] Enterprise Guide. The prevalence of inadequate intakes of vitamin B₁₂ (excluding energy under-reporters (NCFS II: 19.5%, NTFS II: 46%))⁽²⁾ was estimated using the estimated average requirement (EAR) established by the UK Department of Health (4–6y: 0.7mg/d, 7–10y: 0.9mg/d, 11–14y: 1.2mg/d, 15–17y: 1.4mg/d, 18y: 1.3mg/d)⁽³⁾. The percent contribution of food groups to vitamin B₁₂ intake was calculated using SPSS[©] V26 by the mean proportion method (which provides information about the sources that are contributing to the nutrient intake 'per person')⁽⁴⁾. Usual intakes of vitamin B₁₂ were 4.6 and 5.5µg/day in children and teenagers, respectively. Negligible proportions of children and teenagers had intakes of vitamin B₁₂ below the EAR (NCFS II: 0%, NTFS II: 0.3%). Key sources of vitamin B₁₂ among children were 'milks' which contributed 32% of intakes, 'meat & meat products' (21%), ready-to-eat breakfast cereals (RTEBC) (12%), 'fish & fish dishes' (5%) and 'cheeses' (5%). Key sources of vitamin B₁₂ among teenagers were 'meat & meat products' which contributed 29% of intakes, 'milks' (25%), 'RTEBC' (8%), 'grains, rice, pasta & savouries' (6%) and 'eggs & egg dishes' (6%). Current data show that vitamin B₁₂ intakes are sufficient in both children and teenagers. The key sources of vitamin B₁₂ were animal-based products including meats, fish, milks, yogurt, cheeses, eggs and creams/ice-creams which accounted for 74 and 73% of vitamin B₁₂ intakes in children and teenagers, respectively. These findings provide valuable data on the intake and sources of vitamin B₁₂ in these age-groups. Continued surveillance of vitamin B₁₂ intakes should occur in children and adults in Ireland due to the rise in popularity of plant-based diets.

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References

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