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EURRECA: qualitative analysis on possible explanations for the variation among European vitamin B₁₂ recommendations for the elderly

E. L. Doets, L. S. de Wit, A. E. J. M. Cavelaars, R. A. M. Dhonukshe-Rutten, P. van't Veer
and C. P. G. M. de Groot

Wageningen University, Division of Human Nutrition (Bode 62), PO Box 8129, 6700 EV Wageningen, The Netherlands

Most European countries have national recommendations on micronutrient intakes for the elderly that reflect the level of intake that would meet the requirements of practically all healthy individuals in a specific population. They are used for assessing adequacy of dietary intakes and planning desirable dietary intakes⁽¹⁾.

For the elderly vitamin B₁₂ is a micronutrient of concern since inadequate intakes or poor status are prevalent in Europe and associations with severe health problems such as neurological diseases have been demonstrated⁽²⁾.

To identify current recommendations on vitamin B₁₂ intake for the elderly, relevant reports from thirty-one European countries and organisations were collated. In addition, a questionnaire was distributed among key individuals and organisations in the different countries to obtain more information on the methods used to derive recommendations. Eight (groups of) countries and organisations derived *de novo* recommendations, based on the available scientific evidence.^(3–10) Other countries adopted values from another source or a combination of sources⁽¹⁾.

In these eight 'original' reports recommendations on vitamin B₁₂ intake in Europe vary from 1.4 µg to 3.0 µg. This heterogeneity is confusing for policy-makers, health professionals, industry and consumers. A standard approach for deriving micronutrient recommendations throughout Europe has not yet been possible. National bodies use their own practices often involving small and select committees of experts. Furthermore, cultural and regional factors may affect their weighting of the scientific evidence and influence their decision-making.

To pinpoint possible explanations for the variation among vitamin B₁₂ recommendations in Europe, different aspects of the methodology used for deriving them were compared, including: the process of converting physiological requirements into recommendations for populations and how these were defined; whether biomedical factors were considered; how adequacy was assessed; the quality of the evidence base; any other assumptions made.

All eight reports expressed vitamin B₁₂ recommendations as the average physiological requirement + 2 SD. However, definitions of elderly individuals and consideration of their health status differed between reports. Upper age-groups (years) were defined as >18, >19, >51, >65, >71 and >75 and only the report of the DACH countries (Germany, Austria and Switzerland) gave a specific recommended intake for severe atrophic gastritis. Assessments of adequacy used different health outcomes and cut-off values were not the same. All reports assumed that requirements for vitamin B₁₂ do not change with age, but different calculations were made to estimate requirements. The scientific evidence base for vitamin B₁₂ recommendations also differed between reports, as judged by a comparison of references cited in three reports published between 2000 and 2003: France; the DACH countries; The Netherlands. Only one 'common' reference was included in all three reports.

The EURRECA–Network of Excellence will estimate vitamin B₁₂ requirements of the elderly by systematically reviewing the scientific evidence on the relationship between intake, status and health of the elderly in Europe. The results will contribute to the information required to produce the EURRECA toolkit, which will help to harmonise approaches for setting nutrient recommendations.

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