

Scientific Advisory Committee on Nutrition

Paper for Discussion:

Expert Group on Vitamins & Minerals report *Safe Upper Levels for Vitamins and Minerals*

Agenda item 5

EXPERT GROUP ON VITAMINS AND MINERALS (EVM) REPORT ON SAFE UPPER LEVELS OF VITAMINS AND MINERALS

Background

1. The Expert Group on Vitamins and Minerals (EVM) was established in 1998 to review the safety of high dose vitamin and mineral food supplements to ensure that the public is not put at risk. The evidence was reviewed for 34 vitamins and minerals on levels associated with adverse effects.
2. The EVM's terms of reference were to:
 - establish principles on which controls for ensuring the safety of vitamin and mineral supplements sold under food law can be based;
 - review the levels of individual vitamins and minerals associated with adverse effects;
 - recommend maximum levels of intakes of vitamins and minerals from supplements if appropriate.
3. The report of the EVM was published and presented to the Food Standards Agency Board on 8 May 2003. The Board considered the implications of any action required as a result of the EVM report for Agency policy on food supplements.
4. The advice issued by the Agency as a result of the EVM report will allow consumers to make an informed choice based on the possible harmful effects of taking excessive amounts of vitamin and mineral supplements.
5. The EVM report will form the basis of the UK negotiation's position for the EU Food Supplements Directive that contains provision to regulate the markets of (vitamin and mineral) supplements. The Agency will continue to make an input to EU discussions to ensure that regulatory controls are evidence based and proportionate with due regard to safeguarding consumer choice. The EVM report has been forwarded to Member States and the European Food Safety Authority, which will be advising the Commission on EU maximum limits.

Main Findings

The main findings of EVM were:

- **Substances likely to have effects at high dietary intakes**
The EVM has concluded that some people's diets may contain too much vitamin A, which may put them at increased risk of bone fracture. Furthermore, exposure to high levels of vitamin A during pregnancy might increase the risk of birth defects. The EVM issued a Guidance level for total intake of 1500µgRE/day that would not be expected to cause adverse effects.
- **Substances exceeding Safe Upper Levels/Guidance levels with known effects that may be irreversible**
For vitamin B6, beta-carotene (especially for those who smoke and are exposed to asbestos), nicotinic acid, zinc, manganese (especially for older people) and phosphorus there is a risk of irreversible adverse effects if taken for prolonged periods at the highest supplemental doses.
- **Substances exceeding Safe Upper Levels/Guidance levels with known effects that are likely to be reversible**
For vitamin C, iron and magnesium there is a risk that short-term intake at the highest level may result in adverse gastrointestinal effects in sensitive individuals, which would be reversible if consumption stopped.
- **Substances with toxic risks that indicate against use in food**
The EVM concluded that germanium, chromium picolinate and menadione (a form of vitamin K) should not be used in the manufacture of food supplements because of concerns over their toxicity.
- Insufficient information on safety at the highest supplemental doses for biotin, vitamin B12, vitamin E, pantothenic acid, riboflavin, thiamin, magnesium, molybdenum and vanadium.

The Agency is considering a range of risk management options based on the findings of The Expert Group on Vitamins and Minerals report.

Issues

- The Board are seeking advice from the Scientific Advisory Committee on Nutrition (SACN) on dietary advice to consumers on foods and supplements containing vitamin A. SACN will be asked to consider the issue taking account of the re-modelling of vitamin A intakes based on NDNS data.

JP/ND
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