



Adding L-carnitine to food

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The Dietitians Association of Australia (DAA) is the national association of the dietetic profession with over 6000 members, and branches in each state and territory. DAA is a leader in nutrition and advocates for food and nutrition for healthier people and healthier nations. Sports Dietitians Australia (SDA) are Australia's peak professional body for dietitians specialising in sports nutrition. SDA and DAA appreciate the opportunity to provide feedback on the application to permit two forms of L-Carnitine in the Food Standards Code by Food Standards Australia New Zealand.

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DAA/SDA interest in this consultation

DAA is the peak professional body for dietitians in Australia and responsible for the Accredited Practising Dietitian (APD) program as the basis for self-regulation of the profession. SDA is the peak body for Accredited Sports Dietitians and their members help active Australians maximise their exercise goals with credible nutrition.

DAA and SDA advocate for a safe and nutritious food supply in which the community has confidence and which meets the nutritional needs of all Australians.

DAA and SDA understand this application is to add L-carnitine and L-carnitine tartrate in many food classes. It is also understood this request is to increase the L-carnitine amount currently permitted in liquid and solid formulated supplementary sports foods. DAA and SDA understand FSANZ are proposing to increase the amount in supplemented foods to 2g per one day (regardless of L-carnitine form), however not permit the addition of L-carnitine to remaining food classes.

Recommendations

DAA and SDA recommend that L-carnitine should not be approved for addition to other food classes.

DAA and SDA are supportive that the amount in supplemented foods be up to 2g/day, based on current evidence regarding its safety.

DAA and SDA encourage individuals at risk of, or with suspected L-Carnitine deficiency to work with their healthcare providers (including an Accredited Practising Dietitian, APD) to manage and monitor this deficiency. Supplementation with L-Carnitine may be necessary.

Discussion

L-Carnitine is an amino acid mostly found in animal products^[1], with a role in metabolic processes, acting as a transporter in fatty acid oxidation^[2]. As a result, L-Carnitine potentially offers benefit in a range of health conditions such as obesity^[2], diabetes^[2] and heart disease^[3] and is speculated to have other benefits including promoting weight loss^[4], for exercise recovery^[5], and improving cognitive health^[6].

Multiple clinical trials have been conducted to examine the effect of L-Carnitine on weight loss, with the observed safe level indicating safe doses at 2000mg/day^[7]. Doses of around 3g/day from supplementation is associated with side effects including nausea, vomiting and abdominal cramps^[7].

L-Carnitine deficiency could occur for a number of reasons, these include both genetic and medical reasons^[8]. The current evidence does not identify any concerns with L-Carnitine deficiency in the Australian population and the nutritional requirements should be met by food.

It is recommended individuals at risk of deficiency work directly with their health care providers, including GPs, APDs or Accredited Sports Dietitians (ASDs).

DAA and SDA highlight that L-carnitine is currently available as a pure supplement for those wishing to use it for the potential benefit or medical requirement, therefore there

is no additional need for it to be permitted to food. There are also no known carnitine-nutrient interaction that enhances the nutritional value of a food.

APDs and ASDs are constantly faced with the challenge of a growing market for foods fortified with nutritional supplements. These are made readily available to consumers, increasing confusion and making it harder to distinguish between what is a supplement and what is a food.

DAA and SDA highlight that there is a risk, and have been instances of supplement contamination causing doping infringements for athletes^[9-11], and are concerned with the increasingly blurred line between supplement and food, making it harder for athletes to make low-risk safe choices.

References

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