



## **HSIS REAFFIRMS THE NEED FOR VITAMIN D AND CALCIUM SUPPLEMENTS**

In the light of a systematic review examining the role of vitamin D and calcium supplementation in the prevention of cardiovascular events,<sup>1</sup> the Health Supplements Information Service (HSIS) reiterates the importance of these two nutrients.

Dr Carrie Ruxton, independent nutritionist and advisor to the Health Supplements Information Service notes: “Firstly, calcium is essential for building bone strength in childhood and maintaining bone health as we age. Yet, intakes of calcium are worryingly low in several sectors of the population. For example, the most recent figures from the National Diet and Nutrition Survey (NDNS)<sup>2</sup> found that intakes of calcium were below the Lower Reference Nutrient Intake (LRNI) in one in ten teenage girls. Intakes below the LRNI are likely to be inadequate according to government calculations<sup>3</sup>. The teens and early twenties are an important age for bone health as during this time maximum bone density is reached. A calcium deficiency during this time can lead to inadequate bone density which will affect the risk of fractures and osteoporosis later in life.”

“Secondly, vitamin D has a variety of essential activities in the body including helping the absorption of calcium and protecting the skeleton. Low vitamin D status is of increasing concern in the UK, particularly in the elderly, the

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<sup>1</sup> Wang L, Manson JE, Song Y, Sesso HD. Systematic review: vitamin D and calcium supplementation in prevention of cardiovascular events. *Annals of Internal Medicine* 2010;152:315-323.

<sup>2</sup> Bates B, Lennox A, Swan G. National Diet and Nutrition Survey. Headline results from year 1 of the Rolling Programme (2008/2009). A survey carried out on behalf of the Food Standards Agency and the Department of Health. Available: <http://www.food.gov.uk/science/dietarysurveys/ndnsdocuments/ndns0809year1>

<sup>3</sup> The 1991 COMA Report on Dietary Reference Values (DRVs). <http://www.nutrition-matters.co.uk/misc/1991COMAreport.htm>

housebound, children and those living in the north of the UK.<sup>4</sup> Given that vitamin D is found in very few foods and sunlight exposure (the main source of vitamin D) is poor in the UK, supplementation is a key way to reduce this deficit.”

Turning to the systematic review on vitamin D and calcium supplementation in prevention of cardiovascular events, Dr Ruxton adds: “The aim of the review was to find out whether vitamin D and calcium supplements reduce the risk of cardiovascular events in adults. The conclusion was that vitamin D supplements may reduce CVD risk while calcium supplements seem to have minimal – although not negative - cardiovascular effects.”

“The researchers reviewed 17 prospective studies and randomized controlled trials (RCT). Five prospective studies in patients with severe kidney disease (and receiving dialysis), a population group at well known risk of vitamin D deficiency, and also one study in the general population showed consistent reductions in cardiovascular mortality among adults who took vitamin D supplements. Four prospective studies among initially healthy people found no differences in CVD events between those who took calcium supplements and those who didn’t.”

“None of the RCT included in this analysis were designed specifically to test the effect of vitamin D supplementation, calcium supplementation or both on cardiovascular events as the main endpoint. Secondary analysis in 8 of the included RCT showed a slight reduction in CVD risk with vitamin D supplements, but not with calcium or with calcium and vitamin D combined.”

In conclusion Dr Ruxton notes: “This review is positive for vitamin D supplementation in that the evaluated evidence shows that vitamin D supplementation can reduce CVD risk. The researchers call for more research specifically to look at the role of calcium and vitamin D supplements for

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4. Gillie O. Scotland's Health Deficit: An Explanation and a Plan. <http://www.healthresearchforum.org.uk/>. 2008.

cardiovascular risk. However, the point is that low levels of both substances are found in the UK population and these low levels will increase the risk of poor health overall. Supplements are intended to be used for health maintenance and to correct low dietary intakes, thus reducing the risk of deficiency. Given the ongoing low levels in the UK population, it is still important for groups of people in the UK to take supplements of vitamin D and calcium to compensate for dietary deficits.”

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