Medical Xpress

Putting the sunshine vitamin in the spotlight

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Credit: Donnie Ray Jones

Food-based solutions are being devised to counter the 'vitamin D winters'.

We all get vitamin D in two ways – from our diet and from exposure to the sun. A lack of this vitamin puts young children at risk of bone diseases like rickets and older children and adults at risk of bone softening. Some European countries experience so-called 'vitamin D winters,' with inadequate sunlight for two to six months per year during which vitamin D cannot be made in the skin. Not many foods are rich in vitamin D. So it can be difficult to make up the shortfall through diet.

Now, an EU funded project, called ODIN, which started in November

2013, will help devise food-based solutions to optimise our consumption of vitamin D. The project will re-analyse "existing, stored bloods to get a better picture on the prevalence of vitamin D deficiency in Europe, an important starting point," says Kevin Cashman professor of food and nutritional science at University College Cork in Ireland, who jointly coordinates the project.

Vitamin D winters and less exposure to sun during summer months for some Europeans mean diet is even more significant for optimal vitamin D generation. "In Europe, and elsewhere, vitamin D intakes in the population are generally too low to provide for sufficient protection against vitamin D deficiency in the entire population. This is not surprising due to the fact that only a handful of foods are naturally rich in vitamin D," Cashman explains.

Foods rich in vitamin D include oily fish, eggs and meat. But people can top up vitamin D levels by taking supplements and some European countries already have fortified foods like yogurt, cheese, juices and bread which contain the vitamin. The project will take a closer look at how much vitamin D people are getting from the diet and ways of boosting intakes. "It is important to develop an evidence-based policy. The European Commission has set safe upper levels of vitamin D and these need to be considered when developing food strategies," Cashman tells CommNet, "For a minority of people, taking too much vitamin D could result in an elevated level of calcium in their blood, which is something we do not want. So it is important not to fortify foods willy-nilly [i.e. in a haphazard way] but instead to run projections and use evidence to come up with informed approaches."

The project will also test whether at certain life stages we need more vitamin D. Tests will be carried out on pregnant women, teens, children and dark-skinned people, who usually make less vitamin D in their skin.

Some experts agree there is a widespread problem. "Vitamin D deficiency is prevalent in about 50% of the European adult population," says Heike Bischoff-Ferrari, a vitamin D expert, professor for geriatrics and ageing research at the University of Zurich in Switzerland. "One large study in Germany found that about 50% of children also have vitamin D deficiency and prevalence in children with a migration background was even greater due to their darker skin tone," she tells CommNet.

She notes that vitamin D is essential to build an optimal bone mass, particularly during childhood and adolescence. The optimal peak bone mass is reached by age 25, and adults begin to lose bone mass after they reach 35. "We are concerned that this generation may reach a lower peak bone mass in early adulthood and therefore have a higher risk of fracture later in life," Bischoff-Ferrari tells CommNet. She points to less time spent outdoors and sunscreen as contributing to vitamin D deficiency and agrees fortified foods would be especially useful for seniors.

Other experts believe there is already enough evidence to warrant fortification and that policy makers are just behind the curve regarding evidence. "We think safe sensible sun exposure is important but that simply falls on deaf ears so food fortification is desperately needed," says public health advocate John Cannell, founder of the non-profit Vitamin D Council in the USA.

"Much of the call for fortification is based on research from the last five years and it takes bureaucrats that long to begin anything," he tells CommNet. "A large variety of foods should be supplemented with 100 IU per serving. That way, almost everyone will start getting more. Grain products, canned vegetables, frozen foods and juices are good places to start, not just dairy foods."