Health benefits of vitamin D dependent on type taken

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New research has shown that vitamin D3 supplements could provide more benefit than the close relative vitamin D2. The findings published in the June edition of the *American Journal of Clinical Nutrition* could potentially lead to changes in the food industry when it comes to fortification.

Vitamin D is important for bone and muscle health and there is concern that we don't get enough of the 'sunshine' vitamin through exposure to sunlight or through diet. As a result, some foods are fortified with vitamin D. Fortification is usually with vitamin D2, as this is not derived from animals. However this new research, carried out by scientists from the University of Surrey, suggests that vitamin D3 is the more beneficial of the two types of vitamin D in raising the vitamin D levels in our blood when given as a supplement.

The research clearly showed that vitamin D3, the type of vitamin D found in foods including eggs and oily fish, is more effectively converted by the body into the hormone responsible for health benefits in humans.

Dr Laura Tripkovic, who led the study, explains: "We know that vitamin D is vital in helping to keep us fit and healthy, but what has not been clear is the difference between the two types of vitamin D. It used to be thought that both were equally beneficial, however our analysis highlights that our bodies may react differently to both types and that vitamin D3 could actually be better for us."

The researchers analysed the results of 10 separate studies, involving over 1,000 people in total, comparing the health benefits of vitamin D2 and D3, and found "a clear favouring" of vitamin D3 supplements raising vitamin D serum levels in humans.

The researchers are now conducting a further study to see if the same results are found when using lower doses of vitamin D2 and vitamin D3 added to foods, rather than given as stand-alone supplements. Dr Tripkovic and her team will look at over 300 people to find out if vitamin D3 is better, and if so why this is the case. They will also look at how gender, ethnicity and genetic make-up may play a role in how our bodies use both types of vitamin D.

Professor Douglas Kell, BBSRC Chief Executive, said: "With a growing and ageing population, this kind of research is vital to help us ensure that as many people as possible are able to stay healthy and active as they get older. This is a clear example of how a greater understanding of the basic bioscience underpinning human health, could lead to an increase in healthspan to match our increase in lifespan."

More information: The paper: 'Comparison of vitamin D2 and vitamin D3 supplementation in raising serum 25-hydroxyvitaminD status: a systematic review and meta-analysis, *AJCN*: 2012 95:1357-1364 is available to download from: www.ajcn.org/content/95/6.toc

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