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Pneumonia deaths linked to lack of vitamin D

By Martin Johnston
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NZ researchers say next step is to look at role of supplements in fighting infection. Photo / Glenn Jeffrey

Severe vitamin D deficiency has been linked to a higher death rate among pneumonia patients in a New Zealand study that highlights the importance of the vitamin.

Although the Waikato Hospital study was small, it adds to the growing evidence of the role of vitamin D in preventing various diseases, from diabetes to heart disease.

It follows a Dutch study which found a six-fold increased risk of developing a lung infection from respiratory syncytial virus among newborns with a low level of vitamin D.

The Waikato study of blood samples from 112 hospitalised pneumonia patients found the death rate was 29 per cent among those with very-low levels of vitamin D, in contrast to 4 per cent for those with a normal level or a slight deficiency. Fifteen per cent had very low levels.

For most people, 90 per cent of their vitamin D comes from exposure to the sun's ultraviolet light - the vitamin is made in their skin - so vitamin D levels tend to be lower in winter in countries in New Zealand's latitudes because UV levels are lower then.

"It is plausible that this contributes to the increased prevalence of respiratory infections such as pneumonia during winter," said the Waikato Hospital, Waikato University and Otago University researchers in their paper in the journal *Respirology*.

Co-author Dr Ray Cursons said the study enhanced understanding of the apparent importance of vitamin D in combating respiratory infections. But because it was an observational study, no causal link could be established between vitamin D deficiency and death.

Colleague Dr Bob Hancox said, "We now need to investigate whether vitamin D supplements could be a useful addition to pneumonia treatment and whether using supplements could help to prevent or reduce the severity of pneumonia in high-risk populations."

Massey University nutritionist Dr Pamela von Hurst said strong associations had been found between vitamin D deficiency and a number of conditions, including auto-immune diseases such as type 1 diabetes. "The strongest association is for development of type 1 diabetes where there is already a genetic predisposition."

Large European studies have found a link between vitamin D deficiency during pregnancy and later development of type 1 diabetes in children.

"With multiple sclerosis, I know there have been some quite strong statements coming out of Britain, especially Scotland, which is known as the world capital for MS. There have now been recommendations that where there is a family history of MS, vitamin D supplementation be considered essential."

Dr von Hurst said researchers had found quite strong links between deficiency and cardiovascular disease. Auckland University is doing a study of more than 5000 people to see if vitamin D supplementation reduces the rates of cardiovascular disease, respiratory disease and bone fractures.

POSSIBLE EFFECTS Vitamin D deficiency is implicated in:

***** Type 1 diabetes where there is a genetic predisposition.

***** Multiple sclerosis.

***** Heart disease.

***** Stroke.

***** Insulin resistance, a precursor of type 2 diabetes.

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