

Increasing nursing mothers' vitamin D levels may benefit babies

August 30 2016, by Dr Ben Wheeler

New research from the University of Otago has found that giving breastfeeding mothers monthly high-dose vitamin D supplements may be a possible way to improve their babies' vitamin D status.

Vitamin D is essential for calcium and bone metabolism and is mainly obtained from exposure to sunlight, with only low levels found in food and breast milk. Risk factors for infant [vitamin D](#) deficiency—which can lead to the bone disorder rickets—include being exclusively breastfed.

Study co-author Dr Ben Wheeler says many countries recommend giving [babies](#) daily vitamin D supplements during breastfeeding, but this advice was often not followed.

"We wanted to see if having mothers take a monthly, high-dose supplement could offer another way to help infants get sufficient levels of the vitamin," Dr Wheeler says.

In a [randomised controlled trial](#), 90 pregnant women who indicated that they intended to exclusively breastfeed for six months were divided into two supplementation groups and a [placebo group](#). Four weeks after birth, mothers in one supplementation group were given a 1.25mg dose each month for four months while women in the other group took a 2.5mg dose.

The babies' vitamin D levels were measured from their cord blood or

blood tests at the beginning of the trial and then assessed again at its end.

The researchers then adjusted for which season the babies were born in, their skin colour and whether they had been fed supplemented infant formula. Compared to the placebo group, they found a significant and clinically meaningful increase in vitamin D levels in the blood of infants whose mothers took the highest dose.

"At this dose, the improvement in vitamin D status appears to offer some protection against moderate to severe deficiency in infants, as only one of the babies in the 2.5mg group showed serious deficiency compared to six in the placebo group," Dr Wheeler says.

Dr Wheeler adds that there is growing concern internationally that the number of children suffering from vitamin D deficiency is increasing.

"If further research confirms our study's findings then the next step would be to investigate how the monthly supplementation compares in effectiveness to mothers taking daily or weekly vitamin D doses," he says.

The study findings appear in *The Journal of Nutrition*, which is published by the American Nutrition Society.

Provided by University of Otago

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