

Vitamin D helps reduce childhood allergy rate

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Vitamin D supplements during pregnancy and infancy may help to reduce New Zealand's high childhood allergy rate.

In a study, published today in the internationally ranked journal *Allergy*, Associate Professor Cameron Grant from the University of Auckland (and paediatrician at Starship Children's Hospital), showed for the first time, that [vitamin](#) D supplements prevent allergy sensitisation to [house dust](#) mites in children.

He believes vitamin D supplements may also help prevent asthma developing in young children.

The study report notes that in New Zealand there is a sun-avoidance public health policy, our diet has a low vitamin D content and vitamin D supplements are not widely used.

Vitamin D deficiency is prevalent with 57 percent of New Zealand newborns having low concentrations of vitamin D at birth.

Both asthma and allergies are highly prevalent in New Zealand with 25 percent of six to seven year olds reported with asthma and 35 percent of 11 to 12 year olds having an allergic response to house dust mite, plant, food or other allergens.

"In our clinical trial of vitamin D supplementation during pregnancy and infancy, we showed that when these supplements were started in the mum at 27 weeks gestation and then continued in her child until the child was six months old, they prevented sensitisation of the child to house dust mites (measured when the child was 18 months old)," says Dr. Grant.

"Based upon a careful review of the records of the children's visits to their family doctor, we also saw that this vitamin D supplementation reduced the proportion of children making primary care visits which their family doctor thought were due to asthma," he says.

"Diagnosing asthma at such a young age is a difficult thing to do so we have to take this [family doctor](#) visit data with a grain of salt and certainly could not say for sure that the study shows the vitamin D prevents asthma," says Dr Grant.

"But it's the first study to show that correcting poor vitamin D status during pregnancy and infancy might prevent childhood [asthma](#)."

Dr Grant says, "an interesting aspect is that the effects we saw were measured a year after the vitamin D supplementation was stopped."

"This implies that vitamin D caused some change in the child's immune system as it was developing in utero and during early infancy which then

resulted in differences in the immune response to house [dust mites](#) at age 18 months."

"Early life events, including those before birth, can influence a baby's later sensitivity to allergens," says Dr Cameron Grant.

"Vitamin D receptors are present on many immune cells and so vitamin D can affect how the immune system works," he says. "In theory maintaining normal vitamin D status when that sensitivity is developing late in pregnancy and early in infancy, could prevent later allergy sensitivity in the child."

Provided by University of Auckland

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