Clinical Update

Vitamin D status during pregnancy affects infant's teeth

Higher intakes of vitamin D during pregnancy may lead to stronger teeth in children.

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High blood levels of vitamin D, related milk consumption and prenatal vitamin use, were associated with lower incidence of caries in the children, according to research presented at the International Association for Dental Research meeting in Toronto, Canada.

Vitamin D refers to two biologically inactive precursors - D3, also known as cholecalciferol, and D2, also known as ergocalciferol. Both D3 and D2 precursors are hydroxylated in the liver and kidneys to form 25-hydroxyvitamin D (25(OH)D), the non-active 'storage' form, and 1,25-dihydroxyvitamin D (1,25(OH)2D), the biologically active form that is tightly controlled by the body.

Schroth and co-workers recruited 206 pregnant women during their second trimester, and assessed dietary habits using questionnaires. Blood samples were taken in order to measure vitamin D levels as 25(OH)D.

The average 25(OH)D blood level was 48.1 nanomoles per litre, while 34.5 per cent of the women were vitamin D deficient, defined as levels 35 nmol/L or less. Only 10.5 per cent of the women had adequate levels of vitamin D, defined as levels of 25(OH)D of at least 80 nmol/L.

Just over 33% of the infants, examined at an average age of 16.1 months, were found to have early childhood caries. The mothers of these children were found to have significantly lower 25(OH)D levels than mothers of caries-free children (43.9 versus 52.8 nmol/L, respectively).

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A study from the University of Southampton (The Lancet, 2006, Vol 367, pp 36-43) reported that higher intake of vitamin D during late-stage pregnancy was linked to stronger bones in children.

Another study, published in the Canadian Medical Association Journal (2006, Vol. 174, pp. 1273-1277), reported that women with low milk consumption during pregnancy had lighter babies, an association linked to the vitamin D content of the milk.

Source: www.nutraingredients.com