

Presenting Author Name

Avinash Sarcar

Phonetic spelling of your (full) name

AH-vee-nahsh SAHR-kahr

Presenting Author Category

Non-Trainee

Supervisor Name

Robert Schroth

GBD Audio File

New Recording 2.m4a

Headshot

IMG-20181004-WA0006.jpg

Short Bio (100 words)

I'm Avinash Sarcar, a foreign-trained dentist and Research Assistant in Dr. Schroth's Lab at the Children's Hospital Research Institute of Manitoba. I completed my Master's in Dental Sciences, and my research interests focus on oral diseases and their prevention. I hope to build a career in clinical research, bridging dentistry and research to improve health outcomes.

Research Category

Community Health / Policy

Abstract Title

Prenatal maternal serum 25-hydroxy vitamin D concentration and early childhood caries

Authors

Name	Role	Profession
Avinash Sarcar	Presenting Author	Research Assistant
Kozeta Miliku	Co Author	
Suraya Dhalla	Co Author	
Zheng Hao Chen	Co Author	
Vivianne Cruz de Jesus	Co Author	Resident
Robert J. Schroth	Co Author	Full Professor

Background

Low hydroxyvitamin D concentrations have been found to predispose to enamel hypoplasia and early childhood caries in infants.

Objective

The purpose of this study was to determine whether prenatal maternal 25(OH) Vit. D status impacted the likelihood of early childhood caries in 2– 3-year-old children.

Methods

This prospective study is a continuation of the birth cohort that investigated the relationship between maternal 25(OH) Vit. D concentrations and dental caries in infants. Prenatal maternal 25(OH)D levels were measured in nmol/L, and baseline responses were matched with both follow-up survey responses and the child's dental examination at 2-3 years of age. ECC was defined according to established clinical definitions, and the statistical analyses included descriptive statistics and binomial logistic regression.

Results

A total of 110 children and their respective mothers completed the 2-3 year period follow-up visit. Most children were Canadian Indigenous (87.3%), and 70.9% of the children were screened with early childhood caries at 2-3 years. The median prenatal maternal 25(OH) Vit. D concentration was 46.5 nmol/L. The regression analyses revealed that lower prenatal maternal concentrations (25(OH) Vit. D levels < 50 nmol/L) were associated with a higher likelihood of development of ECC by two to three-fold. (crude OR = 2.67, 95% CI (1.14 – 6.23), $p=0.024$; adjusted OR = 3.77, 95% CI (1.11 – 12.83), $p=0.033$).

Conclusion

Children of mothers with reduced prenatal concentrations of 25(OH) Vit. D are at increased likelihood of experiencing early childhood caries when followed up at 2-3 years. Prenatal vitamin D supplementation and increasing dietary intake of vitamin D-fortified foods may serve as an effective way to reduce the risk of early childhood caries.