

Optimizing calcium and vitamin D intake: what should children be consuming?

Vitamin D intake of the children in this study was very low

By Mya Kidson

Calcium and vitamin D are two crucial nutrients for bone growth and development in children, but U of G researchers say that children over four years old might not be getting enough for their age.

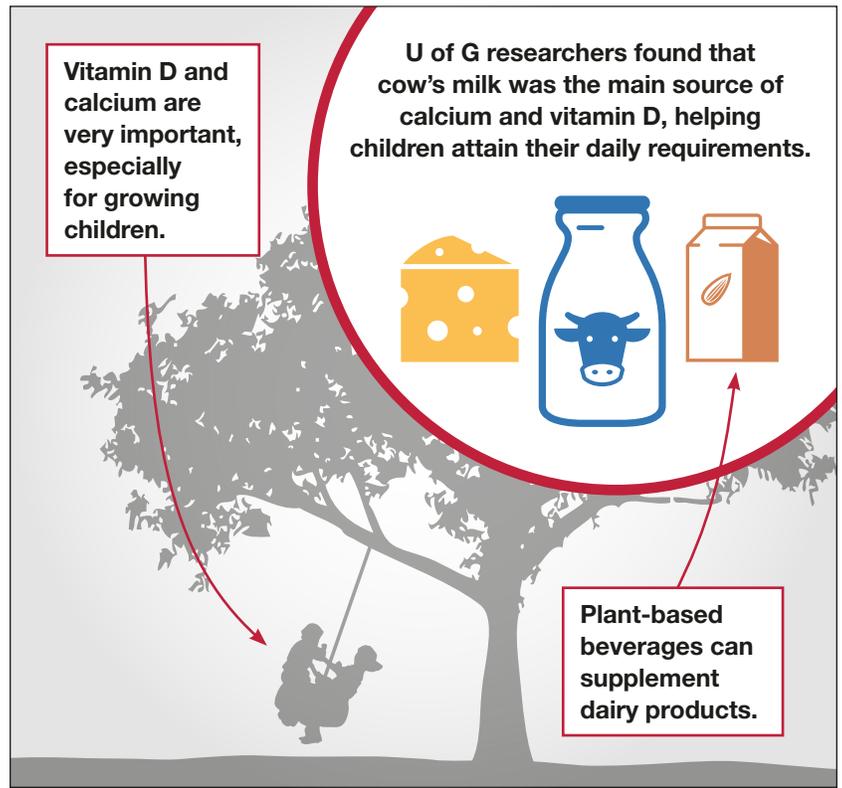
Research student Flora Zhang along with Dr. Andrea Buchholz, Department of Family Relations and Applied Nutrition, and Dr. Genevieve Newton, Department of Human Health and Nutritional Sciences, found that cow's milk is the best source of dietary calcium and vitamin D for children. Other important sources are cheese and some plant-based beverages.

"We found that many young kids are getting enough calcium from dairy (especially milk), while others were obtaining it from alternative sources such as almond beverage," says Buchholz. "However, vitamin D intake in our sample was very low, suggesting that intake from dairy and plant-based beverages was insufficient."

Under-consumption of calcium and vitamin D, especially in critical stages of bone development, can impair health in the long run, says Buchholz.

From 2017 to 2020, researchers collected data from 24-hour dietary recalls for children between 18 months and six years of age. The recalls were recorded by the children's parents, who documented everything that their child consumed the day before.

Data were divided into two age groups—under age four, and between four and six—determined by the cut-off for the Dietary Refer-



ence Intake (DRI) requirements for different age groups.

"Our research results indicate that cow's milk is the main source of calcium and vitamin D to help children attain their DRI," says Zhang. "However, some plant-based beverages, such as almond and soy beverages, can supplement dairy products."

Since Canada's updated food guide was released in 2019, more attention has been paid to plant-based diets.

"Vitamin D and calcium are hot nutrients, especially for growing kids," says Zhang. "And with a de-emphasis on dairy products in the new food guide, it's interesting to see how this may affect how parents feed their kids."

Buchholz is now interested in looking at long-term dietary intakes for children.

She wants to see whether the DRI for calcium and vitamin D is achieved as children get older, or if they continue under-consuming for their age group later on.

"This study provides great recommendations to improve the nutrition of young children," says Buchholz. "This also provides valuable information for other researchers and health-care providers."

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