Mobile tracking application may help users meet vitamin D requirements

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Vitamin D is essential for the maintenance of bone health and may be implicated in other chronic diseases, as well as immunity, but adults in Canada are consistently deficient in dietary vitamin D, by nearly 400 international units per day (IU/d) on average. Coupled with low vitamin D synthesis from the sun during fall and winter at Canadian latitudes, tracking intake of vitamin D is vital for those lacking the nutrient. In an article in the *Journal of Nutrition Education and Behavior*, a group from the University of Guelph examined the validity of a mobile application for tracking vitamin D and calcium intake.

Over 17,000 health apps are currently available and 500 million people worldwide are projected to have used a health app by the end of 2015. In this study, researchers examined use of the Vitamin D Calculator app by enrolling 25 men and 25 women between 18 and 25 years of age. Before beginning the study, participants were instructed on how to use the app

and then asked to use the app to record their intake of vitamin D- and calcium-containing food and beverages, as well as their exposure to sunlight on three recording days.

The day after the three-day tracking period was completed, participants orally recalled their intake for research assistants. Mean vitamin D and calcium intake estimated by the app were significantly positively correlated and not significantly different from the recalls, validating use of the app for tracking dietary intake.

"Because estimated vitamin D intake has not increased meaningfully since 2004, Canadians need to increase vitamin D intake. This app may be a useful tool for tracking personal intake," said lead author Samantha Goodman, MSc, PhD Candidate. "The app represents a valuable tool physicians or dietitians could use in clinical counseling to help patients increase their intake of vitamin D or calcium."

As intake of vitamin D has remained below recommendations since the 2004 Canadian Community Health Survey, encouraging Canadian adults to consume more is an important healthcare goal. Mean dietary vitamin D in adults (aged 19-50 years) has remained around 204 and 232 IU for women and men, respectively, which is well below the recommended dietary allowance of 600 IU/d and below 1000 IU/d recommended by the Canadian Cancer Society for most adults. Tracking intake is therefore important in helping inform patients about potential deficiencies.

There were some limitations to the current study. A longer time for recording vitamin D information could give a more realistic picture of intake. Although vitamin D intake provides important feedback, it is not diagnostic of vitamin D status. However, an app can provide immediate dietary feedback to the user and guide daily food choices.

More information: "Vitamin D Intake Among Young Canadian Adults: Validation of a Mobile Vitamin D Calculator App," by Samantha Goodman, MSc; Barbara Morrongiello, PhD; Janis Randall Simpson, PhD, RD; and Kelly Meckling, PhD. (DOI: dx.doi.org/10.1016/j.jneb.2014.11.006), *Journal of Nutrition Education and Behavior*, Volume 47, Issue 3 (May/June 2015)

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