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Vitamin D status and related factors among Korean stroke survivors

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Background
The aim of this study was to investigate the vitamin D status and related factors in community-dwelling Korean stroke survivors.

Methods
Data of 23,872 individuals ≥20 years who participated in the Korea National Health and Nutrition Examination Surveys (KNHANES) were analyzed. Participants who had ever been diagnosed with stroke by a doctor were defined as stroke survivors (n = 431). The serum 25-hydroxyvitamin D (25(OH)D) level was measured by radioimmunoassay, and vitamin D deficiency was defined as 25(OH)D <20 ng/mL. The association between vitamin D and stroke status was analyzed using multivariable general linear models and logistic regression models adjusted for sociodemographic and clinical covariates.

Results
The adjusted mean 25(OH)D level of stroke survivors was significantly lower than that of nonstroke controls; however, after adjustment for SBP level and use of antihypertensive medication, the difference was no longer statistically significant. The burden of 25(OH)D deficiency was not higher in stroke survivors than in nonstroke controls (adjusted OR = 1.14; 95% CI, 0.81-1.62). Current smoking was independently associated with 25(OH)D deficiency among stroke survivors (adjusted OR = 3.17; 95% CI, 1.33-7.55).

Conclusions
These findings indicated that treatment of high blood pressure and smoking cessation may be important measures to control vitamin D levels in stroke survivors.