**Determinants of Vitamin D Deficiency in People at Risk for Osteoporosis**

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**Background:** Assessment of 25-hydroxyvitamin D level is recommended in people with osteoporosis. In Thailand, 25(OH)D measurement is expensive and limited in availability.

**Objective:** We aimed to investigate predictors that could identify people at risk of osteoporosis and with a high likelihood of vitamin D deficiency, using a questionnaire.

**Methods:** From July 2016 to December 2017, we administered the questionnaire to participants who visited outpatient clinic of internal medicine department, Ramathibodi Hospital to evaluate for osteoporosis. 25(OH)D levels were assessed at the central laboratory of Ramathibodi Hospital, using a chemiluminescent assay. Vitamin D deficiency was defined as 25(OH)D < 30 ng/ml.

**Results:** Two hundred and eighteen participants (mean age 67 years, 91% women) participated in the study. Seventy four percent of the participants had 25(OH)D levels < 30 ng/ml. In a multivariate analysis, living in Bangkok or urban area (OR 2.153, 95% CI 1.063–4.360, p=0.033), exercise ≤ 2 times/week (OR 2.302, 95% CI 1.144–4.634, p=0.019) and no vitamin D supplementation (OR 4.263, 95% CI 2.123–8.561 p<0.001) were determinants of vitamin D deficiency.

**Conclusion:** A simple questionnaire can identify factors associated with vitamin D deficiency in subjects at risk of osteoporosis. Validation of the questionnaire is warranted to develop a simple screening tool for general use.

**Keywords:** Questionnaire, Vitamin D deficiency, Osteoporosis