Low serum 25(OH)D level in urban and rural women with vitamin D receptor gene polymorphism in North Sumatra, Indonesia

Dina Keumala Sari, Sri Lestari and Sunna Vyatra Hutagalung
Sumatera Utara University, Indonesia

Background: Vitamin D deficiency found in women with vitamin D receptor gene polymorphism who lived in tropical country which is North Sumatera Indonesia. Most of vitamin D deficiency had associations with lifestyle, vitamin D intake and body weight.

Objective: This study investigated whether urban and rural women with vitamin D receptor gene polymorphism who lived in North Sumatera had difference circulating of 25(OH)D concentration and whether there are associations with other factors such as lifestyle, vitamin D intake and body mass index.

Design: This was a cross sectional study, including 100 healthy women with vitamin D receptor gene polymorphism, parameters observed were 25-hydroxyvitamin D serum; lifestyle including sunlight exposure, daily sunscreen application; vitamin D intake and body mass index.

Results: The prevalence of vitamin D deficiency was 70%, insufficiency was 29% and sufficiency was 1%. None of the subject reached normal 25(OH)D serum level. Mean of 25(OH)D serum level in urban women was 14.9±3.64 ng/dL and rural women was 20.24±4.43 ng/dL. The prevalence of routine daily sunscreen application was higher than not routine (87% vs. 13%), prevalence of less vitamin D intake was higher than enough vitamin D intake (83% vs. 17%) and prevalence of overweight was higher than normal and obese (83%, 12%, 5%, respectively). There was significant difference 25(OH)D serum level between urban and rural group.

Conclusions: The results indicated that vitamin D deficiency can occur in North Sumatera women and there was significant different between urban and rural group.

Biography
Dina Keumala Sari has completed her PhD from University of Sumatera Utara, Medan, Indonesia. She has published few papers in journals and did research about vitamin D.

dinaridha@yahoo.com

Notes: