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

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**Background:** Vitamin D deficiency found in women with vitamin D receptor gene polymorphism who lived in tropical country which is North Sumatra 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 Sumatra 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  $14.9 \pm 3.64$  ng/dL and rural women was  $20.24 \pm 4.43$  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 Sumatra 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.

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