

Vitamin D Status and its Predictors among Urban and Rural School Children in Ethiopia: A Comparative Study

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Background: There are few studies that look at vitamin D status in children living in sunny climates as it is assumed that they receive adequate vitamin D from sun exposure. But, no study has been done on vitamin D status among children in Ethiopia. Objective: To determine vitamin D status and its predictors among school children aged 11-18 years in Ethiopia. Method: An institution based comparative cross-sectional study was conducted in Adama Town and rural kebeles of Adama Woreda on a total sample of 174 (urban 89, rural 85) during May to June, 2013. Children were randomly selected using multi-stage stratified sampling method. Socioeconomic, demographic, and sun exposure data were obtained, anthropometry measured and capillary blood drawn to determine serum 25(OH)D levels. Results: Vitamin D deficiency (serum 25(OH)D <50 nmol/L) was noted in 42% of children. The proportion of deficiency was significantly higher among students in urban setting as compared to those in rural setting (61.8% vs 21.2%, respectively; $p < 0.001$). The significant predictors of vitamin D status identified using multivariable logistic regression model were study setting, maternal education, triceps skinfold thickness, sun exposure, body surface area exposed, having television/computer in the home and socioeconomic status [AOR(2.74-19.57): 95CI%(1.23, 69.21)]. Conclusion: In conclusion, vitamin D deficiency was prevalent in school children living in a tropical country like Ethiopia both in urban and rural settings, with the prevalence being significantly higher among urban school children. Further study is required to assess the deleterious effect of its deficiency on bone mineral homeostasis of growing children.