

VITAMIN D LEVELS DURING EARLY INFANCY IN A COHORT OF SRI LANKAN CHILDREN

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Background: Epidemiological data from other countries, which lie in the sunny equatorial and tropical belts, and all parts India, have consistently demonstrated high prevalence of vitamin D deficiency in children and adolescents.

Objective: To determine the vitamin D levels in a cohort of Sri Lankan children between 4-6 weeks of age.

Methods: This is a preliminary, observational study investigating vitamin D levels during early infancy. Eighty infants (4-6 weeks of age) whose mothers did not receive vitamin D supplementation during pregnancy or breast feeding were recruited. Blood sample was tested for Vitamin 25(OH)D3, serum corrected calcium, phosphate and alkaline phosphatase (ALP). Data were analyzed using SPSS version 15.

Results: Mean vitamin D, serum corrected calcium, phosphate and ALP were 11.25 ng/mL, 2.56 mmol/L, 2.14 mmol/L and 418.6 IU/L respectively. According to Lips criteria, vitamin D deficiency (20ng/mL), insufficiency (20-30ng/mL) were 87.5% and 12.5% respectively. None had sufficient (30ng/mL) levels. However, serum corrected calcium and phosphate levels were within the normal range. In 21.3% of infants ALP levels were 500 IU. A significant difference ($P=0.04$) was seen in weight gain between vitamin D deficient and non-deficient groups.

Conclusion: Vitamin D deficiency and insufficiency is highly prevalent amongst infants in our cohort. Vitamin D levels did not correlate with bone mineral markers (calcium and ALP). These data call for future investigations to evaluate vitamin D status of the pregnant/breast feeding mothers and in larger sample of infants. Further it warrants redefining biochemical end points of 25(OH)D that correlates with bone metabolism in infants.

Key words: vitamin D deficiency, infants

