

Relationship of Vitamin D status with obesity amongst children residing in Himachal Pradesh, India: Reg No: 243

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ABSTRACT

Background: Vitamin D deficiency and obesity have been recognized as significant health burden among children globally. **Aims & Objectives:** We investigated the relationship between Vitamin D status and obesity in apparently healthy school children residing in Himachal Pradesh, India. **Methodology:** A total of 800 school children (386 boys and 414 girls) aged 6-18y were enrolled from two high altitude regions (>1000 meters) of Himachal Pradesh, India. Fasting blood samples were collected for the estimation of serum 25-hydroxyvitamin D (25-OHD), using automated autoanalyzer (chemiluminescent immunoassay). The data was collected on age, gender, height, and weight using the standard equipments and procedure. The body mass index (BMI) was calculated for the determination of overweight and obesity. The association between serum 25-OHD and BMI was assessed using statistical methods carried out on STATA (version 14) software. **Results:** A total of 573(71.6%) children were found with normal adiposity followed by underweight (214, 26.8%) and overweight (13, 1.6%). No significant difference was observed in the distribution of children in different categories of BMI and Vitamin D ($p=0.580$), neither in boys ($p=0.449$) nor in girls ($p=0.330$). Further, the correlation analysis also demonstrated a lack of correlation ($r=0.04$, $p=0.227$) between serum 25-OHD and BMI. **Conclusions:** Body adiposity was not associated with Vitamin D status of children in the present study.

KEYWORDS

Vitamin D, children, obesity