Vitamin D status in Iranian obese and non-obese children

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Introduction

- Vitamin D deficiency is now a critical issue due to its high prevalence and side effects.
- Prevalence of inadequate vitamin D level is reported considerably higher in Middle-eastern countries.
- Low vitamin D level is responsible for health problems such as cardiovascular diseases, hypertension, infections and common cancers.
- Evidence indicates the association between obesity and lower serum 25-hydroxyvitamin D (25(OH)D) level.

Objective

- The aim of the present study was to examine serum 25(OH)D status of obese and non-obese Iranian children and compare their therapeutic response to identical oral vitamin D3 treatment.

Methods

- Non-randomized clinical trial
- Measuring serum 25(OH)D level of 45 obese and 45 non-obese Iranian children aged 2-14 years
- Treating those with serum 25(OH)D status less than 30 ng/ml (73 cases)
- Treating with One pearl of vitamin D3 (50,000 IU) once a week for 6 weeks
- Measuring serum vitamin D once more two weeks after treatment

Results

- Baseline frequency of hypovitaminosis D was 43/45 (95.6%) in obese and 30/45 (66.7%) in non-obese children (p<0.001).
- Post treatment of 73 cases (43 obese, 30 non-obese), the above percentages were decreased to 24/43 (55.8%) and 1/30 (3.3%), respectively (p<0.001).

Conclusions

- Our study demonstrated a high frequency of vitamin D deficiency among Iranian children, particularly the obese ones.
- Moreover, low therapeutic response in the obese group is witnessed.