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Topic: Community health and nutrition programs

Title: Dietary intake and serum vitamin D status in patients with hypertension in the north of Islamic Republic of Iran

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Introduction: Determination of vitamin D status in different groups in a community and in different climates of a country is necessary and has important implications for general health. Study was conducted to determine the vitamin D status among the adult population of Rasht, a city located in the north of Iran and whether vitamin D status is associated with hypertension. **Method:** This study was conducted on participants that referred to prevention clinic of Heshmat Hospital of Guilan, for routine checkup or health education, spring of 2015. Participants assigned into 2 groups. Case group, 127 patients with newly recognized hypertension and control group, 120 normal blood pressure participants. Serum 25-hydroxyvitamin D were measured after recruiting demographic, dietary intake, anthropometric data and medical histories. **Results:** The mean serum 25-hydroxyvitamin D in total participants was 18.1 ± 8.7 ng/mL. Almost all participants (93%) had a serum 25-hydroxyvitamin D below 30 ng/mL. Patients with hypertension had significantly lower serum 25-hydroxyvitamin D than control. In adjusted models, serum 25-hydroxyvitamin D less than 30 ng/mL was associated with 4-fold odds of hypertension. After adjusted analysis for energy intake, positive association was observed between hypertension and dietary vitamin D intake. **Conclusion:** Vitamin D deficiency was associated with increased risk of hypertension and may be a modifiable risk factor for hypertension. The high prevalence of vitamin D deficiency in this city emphasizes the necessity of vitamin D supplementation as more exposure to sun is limited due to the type of clothing required by current law and because the geographical situation that can be a factor that residences of these regions don't receive sufficient vitamin D from sunlight.