

## Evaluation of effective factors in decreased bone density in patients with osteoporosis and osteopenia

Nasser Aghamohammadzadeh (MD)<sup>1</sup>, Farzad Najafipour (MD)\*<sup>1</sup>, Amir Bahrami (MD)<sup>2</sup>  
Mitra Niafar (MD)<sup>1</sup>, Leila Baglar (MD)<sup>3</sup>, Hamideh Hajiegrary (MD)<sup>4</sup>  
Akbar Aliasgharzadeh (MD)<sup>5</sup>, Majid Mobasseri (MD)<sup>1</sup>

<sup>1</sup>Assistant Professor, Department of Internal Medicine, Tabriz University of Medical Sciences, Tabriz, Iran.

<sup>2</sup>Professor, Department of Internal Medicine, Tabriz University of Medical Sciences, Tabriz, Iran. <sup>3</sup>Obstetric and Gynecologist, Tabriz, Iran. <sup>4</sup>General Physician, Marand, Iran. <sup>5</sup>Associate Professor, Department of Internal Medicine, Tabriz University of Medical Sciences, Tabriz, Iran.

---

### Abstract

**Background and Objective:** Osteoporosis is the most common metabolic bone disease that characterized by reduced bone strength. The aim of this study was to evaluate the prevalence of effective factors in decreased bone density and secondary causes of osteoporosis.

**Materials and Methods:** This descriptive cross sectional study was done on 105 patients (76 female and 29 male) suffering from osteoporosis, evaluated in the endocrinology Department of Sina hospital, Tabriz- Iran from March 2003 to March 2006. Past medical history clinical symptoms and biochemical results were of patients. Data analyzed using SPSS-14 and chi square test.

**Results:** Osteoporosis and osteopenia were seen in 55% and 45% of patients with reduced bone density, respectively. Daily calcium intake in patients with less than 400 mg, between 400-1000 mg and more than 1000 mg were 63.8%, 31.9% and 3.4%, respectively. The mean±SD of sera calcium and vitamin D level were 9.5±0.6 mg/dl, 45±37.1 nmol/l respectively. 61.2% of patients had vitamin D deficiency. 33% of patients had secondary osteoporosis. Among the patient with primary osteoporosis 11.3% afflicted to hyper calciuria.

**Conclusion:** This study showed that decreasing bone density was more prominent in women. The rate of daily calcium intake among patients were low. It is suggested these patients osteoporosis could be prevented by consumption food nutrient rich in calcium and vitamin D supplementation.

**Keywords:** Bone density, Post menopause, Osteoporosis, Vitamin D, Osteopenia

---

\* Corresponding Author: Farzad Najafipour (MD), E-mail: najafipourf@tbzmed.ac.ir

Received 25 Feb 2008

Revised 10 Dec 2008

Accepted 12 Jan 2009