

Golden Jubilee Commemoration Award Lecture
Lecturer : Dr. Ashok Kumar, FAMS

NUTRIENT : WOMEN NEED MOST

SUMMARY

The body needs calcium to maintain strong bones and to carry out many important functions. Osteoporosis, reflected only by a low bone mineral density (BMD), is increasingly becoming a major public health problem in Asian countries. Genetic factors along with environmental factors are responsible for substantial variation in bone density and bone mass. Women whose calcium intake is inadequate before the age of 20-25 and do not achieve their ideal peak bone mass, have a higher risk later on in life of developing osteoporosis, because calcium is drawn from the bones as a reserve. In pregnancy, very high circulatory concentrations of estrogens and progesterone alter the concentration of many substances including calcium in the maternal blood. There is an increased demand for calcium and inorganic phosphate for fetal development during pregnancy. All these factors which negatively affect bone mass consistently persist in premenopausal as well as postmenopausal period.

A high incidence of vitamin D deficiency in pregnant and non-pregnant women has been reported from developing countries including India. Vitamin D deficiency and hypocalcemia have been associated with a variety of pregnancy complications such as preeclampsia, gestational diabetes and prematurity.

It has been observed that daily intakes of energy (1563.4 ± 267.2 kcal), protein (48.7 ± 8.7 g) and calcium (543.7 ± 161.3 mg) were below the recommended dietary allowance of women. The major part of this dietary calcium came from plant sources, which are known to have low bioavailability. The diets were typically cereal-based with a very low intake of protective foods and animal protein. Insufficient intakes of calcium do not produce obvious symptoms in the short term because the body maintains calcium levels

in the blood by taking it from bone. But in the long run, it causes osteopenia and increases the risks of osteoporosis and bone fractures.

Daily dietary energy, protein, and calcium intakes were correlated with BMD at the lumbar spine. Age, BMI, and physical activity were significant predictors for BMD at all sites. Dietary pattern coupled with higher education levels and greater physical activity favored bone health. There is need to change dietary pattern and habits by improving education and socio-economic level. Calcium and vitamin D supplementation, especially in second and third decade are the first-line strategy for the prevention of osteoporosis.