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**Original article**

**Vitamin D, Serum Calcium and Bone Mineral Density in pre and post menopausal women- a pilot study**

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**Abstract:**

**Introduction:** Osteoporosis is a major health problem which poses a huge challenge in developing nations like India due to demographic transition and ageing population. .WHO has predicted Asians to be largely affected by osteoporosis by the year 2050. 30 million women in India suffer from osteoporosis, of which 50% are postmenopausal.

**Materials and Methods:** The study was a cross sectional study conducted in a tertiary care hospital. Thirty women in the age group around 20-40 years (pre menopausal i.e., up to menopause) and thirty two menopausal women 0-5 and 5-10 years after reaching menopause were included in this study.1, 25-(OH) 2 Vitamin D was estimated by LUMAX 4100 using Chemiluminiscence method, Serum Calcium by ARSENOZO method using Randox Dytona Auto Analyzer and Bone mineral density using Bone Densitometer Hologic Company.

**Observations and Results:** We observed a statistically highly significant reduction in vitamin D and serum calcium in post menopausal women when compared to premenopausal women (p < 0.01).Also 100% of postmenopausal women had low BMD. Time Duration after menopause also has a significant effect on vitamin D and serum calcium levels along with BMD.

**Conclusion:** Osteoporosis is an important cause of morbidity and mortality in women. Vitamin D status plays an important role in mineralisation of the skeleton at all ages. Adequate calcium intake along with vitamin D is necessary to maintain the peak bone mass achieved by an individual.

**Keywords:** Bone mineral density, serum calcium, vitamin D