

LOW BONE MINERAL DENSITY IN YOUNG INDIAN INFORMATION TECHNOLOGY (IT) PROFESSIONALS: PREVALENCE AND RISK FACTORS



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INTRODUCTION

Osteoporosis, defined as a “progressive systemic skeletal disease characterised by low bone mass and micro architectural deterioration of bone tissue, with a consequent increase in bone fragility and susceptibility to fracture” (WHO), is recognised as a major concern globally especially in older age. Although it creates health problems in older age the process starts at a younger age. However, the prevalence of osteopenia (low bone density) or osteoporosis (significantly low bone density) in young populations is not known. There is a paucity of published reports regarding the prevalence of osteoporosis in Indian population, specifically in younger adults.

OBJECTIVE

The aim of this study was to identify the prevalence and risk factors of osteoporosis and osteopenia among young Indian adult IT professionals



RESULTS

Parameters	Mean	±SD
Age (years)	28.51	±3.93
Height (cm)	167.95	±9.88
Weight (kg)	67.75	±11.12
BMI (kg/m ²)	24.32	±4.01

Table 1: Demographic data of the subjects

Risk factors	χ^2 value	Level of Significance
Presence of joint pain	7.49	P<0.05
Positive family history of osteoporosis	6.01	P<0.05
Lack of regular exercise	8.26	P<0.02

Table 2: Association between risk factors with prevalence of osteoporosis

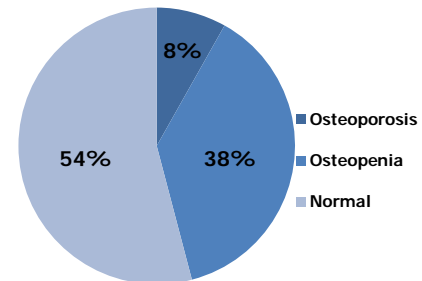


Figure 2: Prevalence of Osteoporosis

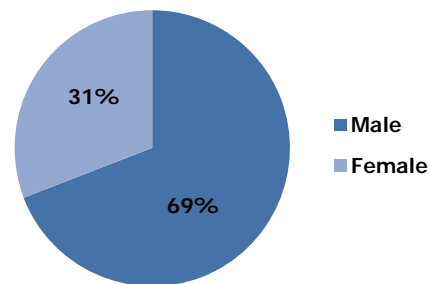


Figure 1: Distribution of gender

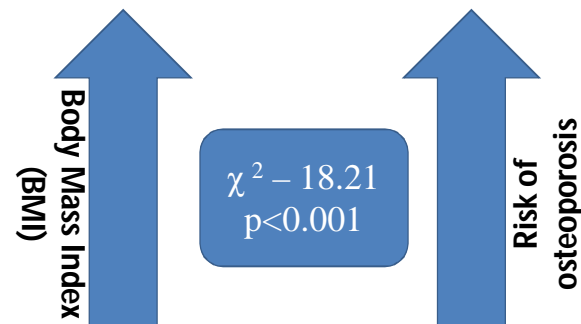


Figure 3: Relation between BMI and risk of osteoporosis

METHODOLOGY

Design and Subjects:

405 young IT professionals, between the ages of 20 years and 40 years, participated in this study after signing an informed consent.

Setting and Duration:

The study was conducted at onsite occupational health clinics at various IT organisations at Bangalore.

Procedure:

Demographic data along with self reported risk factors of osteopenia and osteoporosis were recorded using a structured questionnaire. Bone mineral density was measured using ultrasound bone mineral density analyser at the calcaneum.

Discussion

Recent reports indicate that the process of bone loss starts at the early age of life. Studies from Hong Kong and Iran have reported a high prevalence of osteopenia and osteoporosis in the younger population. Earlier studies in India have already found the widespread presence of vitamin D deficiency in the population. IT professionals in India are perhaps predisposed to low bone mineral density due to lack of exposure to sunlight, dietary factors and lack of weight bearing exercise. Larger studies using BMD measurement by Dual Energy X-Ray Absorptiometry and Vitamin D levels in young IT professionals are recommended.

Conclusion

The study revealed a significant prevalence of osteopenia and osteoporosis among young Indian IT professionals. Preventive measures must be instituted in the population at risk such as exposure to sunlight, weight bearing exercise, increased consumption of food items rich in calcium and vitamin D, avoidance of smoking, excessive intake of caffeine and aerated drinks. Medical professionals including Occupational Physicians must have a high index of suspicion regarding the possibility of low bone mineral density in the younger population, irrespective of gender.

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