ABSTRACT

This is a hospital based cross-sectional study comprising of both descriptive and analytical components that included 297 patients who underwent treatment for their hip fractures at three randomly selected public sector hospitals of Lahore, namely Mayo, General and Ganga Ram during the period May to October, 2006. The objective of study was to identify the significant risk factors attributable to the disease of osteoporosis and to determine the predictive strength of the risk factors. Analogue radiographs of their right hands were obtained to determine metacarpal cortical indices (MCI) to asses the bone mineral content. Out of total of 297 hip fracture patients, 144(48.5%) who had greater than 0.5 categorized as not having osteoporosis(controls) and 153(51.5%) had the MCI less than 0.5 who were categorized as suffering from the disease(cases). The age ranged from 17 to 90 years. The mean age was 63.64 ± 18.55 years. A tool which was used to collect data was well designed, structured, and tested questionnaire. Chi-square test was used to test the significance of various risk factors with osteoporosis. Meta analysis was performed to test the significance of some risk factors at fixed levels of other factors. Some interaction effects were analyzed using graphical approach only. Multiple linear logistic models were fitted to bifurcated groups of male, female and post-menopausal female groups as well as model fitted on patients overall. In the overall model; Gender(OR=4.915,p=0.000), age(OR=1.064,p=0.000), bmi(OR=0.851, p=0.001), family history(OR=3.454,p=0.001), calcium assessment(OR=0.961,p=0.000), smoke(OR=3.216,p=0.001), physical activity(OR=2.616,p=0.007),mal-nutrition(OR=3.251,p=0.002). In the predictive model fitted for the male patients almost same risk factors were significant. In the predictive model for female patients besides above risk factors number of children and menopausal status was found to be highly significant (OR = 4.189, p=0.005). In the predictive model for post-menopausal female patients the significant risk factors included in the model were low bmi, family history, smoke, lack of physical activity, number of children and important risk factor was an early menopause(OR=6.746,p=0.048).