

Burden of osteoporosis in Iran

Abolhasani F. (M.D.)¹, Mohammadi M. (M.D.)², Soltani A. (M.D.)¹.

1- Assistant Professor, Endocrinology and Metabolism Research Center (EMRC), Tehran University of Medical Sciences, Tehran, Iran.

2- Endocrinologist, Endocrinology and Metabolism Research Center (EMRC), Tehran University of Medical Sciences, Tehran, Iran.

Abstract

Introduction: Osteoporosis is the most common metabolic bone disease. In addition to morbidity, osteoporotic fractures also increase mortality risk in affected patients. Enough evidence is not available to indicate that, like western countries, osteoporosis is a public health problem in Iran. Therefore EMRC planned to estimate the burden of osteoporotic fractures in year 2001 based on existing sources of data. The EMRC study on bone density, the MOH study on unintentional injuries, and international literature on mortality risk following osteoporotic fractures were the main sources of information used for this study.

Materials and Methods: To estimate burden of osteoporotic fractures, the prevalence of osteoporosis, the incidence of osteoporotic fractures, and the relative risk of mortality following these fractures were approximated. The mean duration of disability following major osteoporotic fractures was estimated through epidemiologic modeling. Assumptions on the disability weights of morbid conditions resulting from osteoporotic fractures were made through comparing these conditions with similar ones in Global Burden of Disease Study. Based on mortality and incidence rates, mean durations of disability, and disability weights; the DALYs indicator was calculated for Spine, Hip, and Forearm fractures.

Results: In women hip, spine, and forearm fractures were responsible for 15880, 1269, and 121 mortality- and morbidity-related lost years of life respectively. Similar figures in men were 16495, 2225, and 37 years. Collectively osteoporosis deprived Iranian population from 36026 healthy years of life (18757 in men and 17270 in women) in 2001. Higher burden of osteoporosis in men, mainly results from higher risk of mortality following fractures in male sex.

Conclusion: The national study on unintentional injuries indicates that the incidence of osteoporotic hip fractures in Iranian population is much less than other populations. Higher bone mineral density and other probable differences between Iranians and other populations that affect fracture risk, like environmental conditions and life style, should be investigated as probable determinants of this difference. Limited available sources of information regarding osteoporotic fractures necessitate more comprehensive studies to clarify all aspects of this health problem.

Key Words: Osteoporosis, Burden of osteoporosis, and Bone fracture.

Corresponding Address: Dr. Abolhassani F., Endocrinology and Metabolism Research Center (EMRC), Fifth floor, Shariati Hospital, North Garegar Street, Tehran, Iran.

E mail: abolhassanif@sina.tums.ac.ir