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# Critical Need of Osteoporosis Risk Assessment Tool for Pakistan

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## Critical Need of Osteoporosis Risk Assessment Tool for Pakistan

Sir,

Osteoporosis is an ignored non-communicable disease which needs attention in this part of the world as it affects 1 in 3 women over the age of 50 worldwide. There is an extreme lack of solid epidemiological data on osteoporosis in Pakistan and its diagnostic facilities are meagre. However, several studies have been performed for the assessment of risk factors, locally.<sup>1,2</sup>

There is generally a low level of osteoporosis awareness in the country due to low level of education, infrequent contact with the health service, large family size, and poor economic conditions. Osteoporosis may remain unnoticed for many years until a fracture occurs. In the absence of fracture, osteoporosis is diagnosed by measuring Bone Mineral Density (BMD) using Dual Energy X-ray Absorptiometry (DXA). There are limited number of DXA machines in Pakistan and available only in urban areas, which are not affordable by most. For many years BMD measurements have provided the customary method of assessing the risk of fracture, based on the World Health Organization (WHO) classification of osteoporosis as bone mineral density 2.5 standard deviations or more below the BMD of a young individual. This approach identifies only a small percentage of those who will experience a fracture. If treatment is targeted only at such individuals, the total impact of intervention will not be as efficient. Assessment of fracture risk can be improved by the use of clinical risk factors which act independently of BMD to increase the risk of fracture.

The introduction of the WHO fracture risk-assessment calculator (FRAX) in 2008 has facilitated the assessment of fracture risk on the basis of fracture probability. FRAX integrates the influence of well validated risk factors for fracture from large prospective observational

studies of men and women of different ethnicities and from different world regions (excluding Pakistan).

There are several other osteoporosis screening instruments developed worldwide, like SCORE, ABONE, pBW, OSIRIS, SOFSURF, OSTA, NOF, WO-E and ORAI.<sup>3</sup> Most of these are based on non-Asian population and unfortunately no such tool is available for Pakistan where the risk factors are different from the Caucasians. For instance, standard Muslim norm of Pakistan is that alcohol consumption and tobacco usage are uncommon, especially among females, and is considered a taboo in our society. Thus, osteoporosis screening questionnaires have so far not been validated in Pakistani community.<sup>4,5</sup> Similar tool is the need of time for our society where factors like poverty, multiparity, low calcium intake, vitamin D deficiency, and lack of physical activity are prevalent.

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