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# Need for Clinical Guidelines for Management of Osteoporosis and Way Forward for Pakistan

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Osteoporosis is a global epidemic, characterised by low bone mass and altered micro-architecture of the bone.<sup>1</sup> The population at risk of fractures due to fragile bones is expected to increase by over two-folds by the year 2040; and the burden rises with ageing populations.<sup>2</sup> The situation is, especially, alarming in the Asia-Pacific region, where the population over 65 years is expected to quadruple by 2050, with over half of the hip fractures in the world predicted to occur in the Asia-Pacific by that year.<sup>3</sup>

The Asia-Pacific Consortium on Osteoporosis (APCO) was launched in May 2019. Its vision is to reduce the burden of osteoporosis and its associated complication of fractures in the Asia-Pacific. APCO is comprised of 39 experts in osteoporosis from 19 countries and regions.<sup>4</sup> APCO determined that the existing clinical guidelines for osteoporosis in countries in the Asia-Pacific were too varied in scope and recommendations, through a comprehensive and comparative review. In addition, there are many low- and middle-income countries (LMICs) where no guidelines exist.

The first APCO's project was, therefore, to formulate harmonised pan Asia-Pacific clinical practice standards (The Framework) for the screening, diagnosis, and management of osteoporosis. A '5IQ' approach identification, investigation, information, intervention, integration and quality, was employed to identify key elements in the various national and regional guidelines for consideration to be included as standards of care. APCO members then shaped The Framework by reaching a consensus using the Delphi technique through multiple rounds of structured questionnaires.<sup>5</sup>

The Framework is a guidance document, proposing minimum practice standards for osteoporosis management, focusing on a broad range of high-risk groups, including patients who already have had a fragility fracture, patients who are at a higher risk according to country-specific fracture intervention threshold and other high-risk groups, such as patients living with conditions/or are on medications that predispose to bone loss. An aspirational and readily measurable guidance, it is hoped that the clinical guidelines on osteoporosis in the various countries of the Asia-Pacific will be benchmarked against the scope and standards of care proposed in the framework.

In Pakistan, accurate data on osteoporosis is absent due to limited number of epidemiological studies. Available studies report lack of DEXA machines availability with a high burden of osteoporosis on heel ultrasound scanning. Clinical guidelines are non-existent; and there is no available report of compliance to any action plan in clinical practice throughout Pakistan.<sup>6</sup>

However, prevalence and associated complications of osteoporosis are expected to rise due to an aging population, a sedentary lifestyle and urbanisation. The International Osteoporosis Foundation (IOF) reports that as of 2012, 9.91 million people in Pakistan have osteoporosis, and this is estimated to increase to 11.3 million in 2020 and to 12.91 million by 2050.<sup>7</sup> Despite its common occurrence and availability of advanced diagnostic and treatment modalities, there is lack of optimum utilisation of resources, investigation and treatment. Definite epidemiological data in the country is lacking and risk factors such as multi-parity, longer life span after menopause, low dietary calcium intake, vitamin D deficiency, and physical inactivity are on a perpetual rise. Different local studies have reported the frequency of osteoporosis from 5.6 to 17.8% in pre-menopausal and 20-49.3% in postmenopausal women.<sup>6</sup>

Since the diagnosis and treatment of osteoporosis lies at an intersection of multiple clinical specialties (endocrinology, rheumatology, orthopedic surgery, pathology, family medicine, etc.), the management is not methodical, and the disease often gets overlooked or mismanaged owing to a lack of responsibility assertion by any medical specialty. There is an acute need to take steps to develop guidelines for diagnosis, treatment and

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prevention of osteoporosis, dissemination of the resulting guidelines to the physicians across the country, and for inclusion of osteoporosis as a priority in the National Action Plan by the Government of Pakistan.

The way forward for Pakistan is to develop country-specific national guidelines using the clinical standards in the APCO Framework as a benchmark. Implementation of the clinical practice guidelines, thus developed, is expected to enable implementation of programmes for prevention and treatment of osteoporotic fractures, fracture liaison services (FLS) for prevention of secondary fracture prevention (SFP) and provincial and national fragility fracture networks. Real epidemiological data, produced through registries, will enable identification of knowledge gaps, and drive multi-sector action focusing on the preventive and management aspects of osteoporosis throughout Pakistan.

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