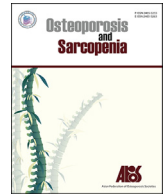




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# Osteoporosis and Sarcopenia

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## Editorial

### The Asian Federation of Osteoporosis Societies' call to action to improve the undertreatment of osteoporosis in Asia



Osteoporosis and its associated fractures lead to significant morbidity and mortality worldwide. Asia is not exempt, as it has been estimated that over 50% of all the hip fractures in the world will occur in Asia by 2050 [1]. A recent review estimated that around 30% of the hip fractures occurring worldwide will arise in Asian populations, most notably in China [2], due to an increasingly ageing population. The age-adjusted incidence of hip fracture among men and women in China [2,3], Japan [2], and Thailand [4] are increasing, with a possible stabilization of the rates in Hong Kong and Singapore [2].

The increased mortality following osteoporotic fractures has also been shown in Asian populations. A multicentre survey from mainland China found that the mortality was doubled after osteoporotic vertebral and hip fractures compared to that of the healthy population [5]. The 1-year mortality after a hip and vertebral fracture was 3.8% and 3.1% respectively, compared to 1.6% in the non-fracture population. Overall, the 5-year mortality was 16.9% [5]. In Taiwan, the 1-year mortality after a low-energy trauma hip fracture was found to be 12.4% [6]. The 1-year mortality rate after hip fracture was 23.9% in Korean nursing home residents [7]. Morbidity with impaired self-care ability was also high, with 40.6% affected after a hip fracture in the aforementioned study in mainland China [5]. The risk of a second osteoporotic fracture following the first osteoporotic fracture is increased by up to 4 times compared to those who have not yet had a fracture [8]. Thus, treating these high-risk patients should be a key priority.

Despite the significant mortality and morbidity following osteoporotic fractures, there is a lack of recognition of the importance of osteoporosis, with very few Asian countries making osteoporosis one of their national health priorities [9].

The ability to diagnose osteoporosis can pose a challenge in Asia. Many countries in Asia have predominant rural populations where there is difficulty in getting access to health care professionals who are knowledgeable about osteoporosis. In addition, access to bone mineral density measurements with dual-energy X-ray absorptiometry (DXA) is highly variable, with many Asian countries having less than 1 DXA machine per million population [9], when the recommendation is 10.6 DXA units per million of the general population [10].

Antiosteoporosis medication (AOM) have been shown to be very effective in significantly reducing future osteoporotic fractures [11]. However, even when osteoporosis has been identified after a fragility fracture, a treatment gap remains. The low rate of

treatment with AOM following a fragility fracture has been well-documented in studies from North America and Europe. Unfortunately, this treatment gap is also present in Asia. In a multicentre Asian study, only 33.0% of patients after a hip fracture received prescription medications for osteoporosis at 6 months after discharge [12]. In a study from mainland China, 69.6% of the patients received treatment after their fragility fractures, but 39.6% of them only received calcium with/without vitamin D supplementation [5]. In contrast, a single centre study from Malaysia showed that only 36.8% of the patients received treatment after a low trauma hip fracture, and out of these, 24.2% were on calcium/vitamin D only [13]. Similar results were seen in Korea, with one-third of the patients (33.5%) receiving an AOM prescription and only 9.4% of the patients were prescribed an AOM with calcium and vitamin D supplements after a hip fracture [14]. Even among those who received an AOM, the long-term compliance remains a problem. In the study from China, 33.1% of the study population continued their treatment for over 2 years [5]. In contrast, the median duration of treatment was only 1 month in the Malaysian study [13].

In addition, the low rate of treatment after osteoporotic fractures has been exacerbated by the fact that the number of patients being treated has actually fallen in the recent years, leaving more people at risk. In a study from the United States, treatment rates after an osteoporotic fracture declined from 23.8% to 10.6% in 2001–2002 to 15.9% and 8.5% in 2007–2009 in women and men respectively [15]. In Malaysia, treatment after a low-trauma hip fracture decreased from 56.7% in 2010 to 30.2% in 2014 [13]. It has been postulated that patients' concern about potential side effects of treatment, especially regarding one of the major treatment options—the bisphosphonates, has contributed to this declining treatment rate. After reports of adverse effects of bisphosphonates started to surface, a study linked an increase in internet searches for bisphosphonates between 2006 and 2010 with a subsequent reduction in oral bisphosphonate use by greater than 50% between 2008 and 2012 [16].

Thus, we have a potential “perfect storm” of circumstances that can create an epidemic of osteoporotic fractures in Asia in the near future. Firstly, general improvements in life expectancy will lead to an increase in the ageing population in Asia that will be at risk of osteoporosis and osteoporotic fractures. Secondly, limited diagnostic facilities and/or the lack of health professionals trained in osteoporosis may lead to an underdiagnosis of the problem. However, even after a diagnosis of osteoporosis has been made, doctors and/or patients can be reluctant to start treatment due to concerns about potential rare side effects of osteoporosis medication. Hence,

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many patients who are at a high risk of future fractures remain untreated.

We therefore urge all the stakeholders involved in management of patients with osteoporosis to:

- make osteoporosis a national health priority in the respective member countries of the Asian Federation of Osteoporosis Societies.
- continue with educational programmes to inform health professionals on the positive risk-benefit ratio of treating osteoporosis.
- increase awareness among the public on the importance of treating osteoporosis and the positive risk-benefit ratio for the treatment options available.
- take measures to increase secondary fracture prevention, both in the identification of cases and in ensuring adequate treatment after the first osteoporotic fracture. Patients who have had recent fractures should be systematically identified using models of health care delivery that have been shown to be effective, for example, via a Fracture Liaison Service [17–19].

### Conflicts of interest

No potential conflict of interest relevant to this article was reported.

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