Sri Lanka

Overview

Despite the predictions of high fracture incidence in the future, the efforts to face the health and socioeconomic burden associated with increased number of fractures are unapparent in Sri Lanka. The current burden of communicable diseases caused by new and reemerging infections, some of which reach epidemic proportions, probably has diverted the attention of all concerned.

There are two major areas of concern regarding osteoporosis in Sri Lanka. Patchy data on the prevalence of osteoporosis and the incidence of fragility fractures is restrictive us when planning and implementing preventive strategies in high risk populations. The restricted availability of central-type DXA; only four machines for the entire country, is a major limitation. Although it was hoped that the recently introduced FRAX® model would partly fill this void, the applicability of FRAX® in clinical practice is still limited.

Lack of a coordinated program to meet the demands of osteoporotic patients has paved the way for many unacceptable practices in the country. Indiscriminate screening not based on clinical risk profile and using therapies which are expensive and not evidence-based are the end results.

The medical community in Sri Lanka has a huge responsibility to generate reliable data to depict the correct picture of osteoporosis in the country and practice evidence-based guidelines in screening and managing those who are affected with the disease. The White Paper on Osteoporosis could be a stepping stone in this direction.

Key findings

The present population of Sri Lanka is approximately 21 million\(^1\). It has been estimated that the total population will increase to 21.7 million by 2020 but in spite of some increase thereafter it is expected that by 2050 the total population will again be about 21.7 million. However, the population of more than 60 years will increase from 17.1% (3.7 million) in 2010 to 27.8% (6 million) by 2050\(^2\) (figure 1).

There is lack of nationwide surveys or a central database for hip fractures. However a fair estimate based on a 2007 survey in the southern province suggests that there are 73 fragility hip fractures per 100 000 people aged over 50\(^3\). This incidence is very low when compared with European and Scandinavian countries but comparable with low figures reported from some Asian countries. The estimated total number of hip fractures per year in Sri Lanka in 2006 was 2730. This number is expected to rise substantially, to about 7000 by 2040, as the population over 50 increases (figure 2).

Furthermore, a sample of postmenopausal women from a single province showed a 10% prevalence of vertebral fractures and this again is low when compared with prevalence figures from other countries\(^4\).

A community based survey in 7 out of 9 provinces in Sri Lanka using peripheral DXA of the phalanges, suggested that 876 thousand women may be suffering from osteoporosis by densitometric criteria. The
use of phalgeal DXA and its validity in diagnosing osteoporosis and predicting fractures is not optimal. DXA remains the good standard for diagnosis. This number would be expected to double or triple by 2020 and 2040 respectively. Diagnostic facilities are limited to urban areas. However, majority of Sri Lankans live in rural areas (figure 3).

There are only four DXA machines (three central and one peripheral) and one ultrasound machine available for the whole of the country. Since the ordering of these tests is still infrequent, despite such limited number of machines, the waiting period is very short—1-3 days for DXA and the same day for ultrasound. The cost for DXA scan varies from 30-40 USD and for ultrasound to about 10 USD, and is reimbursable by the government and in the private sector. Although large surveys are not available, one study done in suburban men showed an average calcium intake of about 200 mg/day, which is considerably below the recommended levels. Despite favorable latitude and plenty of sunshine, the limited data available suggest that vitamin D deficiency is common in women. Calcium and vitamin D supplements are widely available. Furthermore, vitamin D enriched milk and dairy products are sold all over the country. Lifestyle modification programs for osteoporosis prevention have been initiated in some areas.

Table 1 Diagnostic tools and costs

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<tr>
<td>total DXA machines</td>
<td>4</td>
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<tr>
<td>DXA machine/10 000 population</td>
<td>0.002</td>
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<tr>
<td>cost of DXA scan (USD)</td>
<td>30-40</td>
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<tr>
<td>cost of ultrasound (USD)</td>
<td>10</td>
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<tr>
<td>income per capita per month (USD)</td>
<td>311</td>
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Vitamin D and derivatives, raloxifene, bisphosphonates (alendronate, zoledronate, and ibandronate) as well as teriparatide are available in both branded and generic forms. Apart from calcium and vitamin D, other drugs are not available in government hospitals. Reimbursements are available from the government and private health insurances with no restrictions. However, a very small proportion of the population is covered by insurance schemes.

The Sri Lankan government has not recognized osteoporosis as a major health problem. As a result there are no government approved guidelines on screening or management. Awareness of osteoporosis among health care professionals has improved considerably but there is still a gap between knowledge and implementation of treatment. Patients suspected of having osteoporosis do not receive adequate care most of the time. This could be related to lack of facilities, or hesitation on the part of the treating physician. Most of these patients are treated by rheumatologists, endocrinologists, physicians and nephrologists. Although there is no regular renewal of management guidelines, regular educational activities are being conducted with the help of national societies to inform the medical community regarding the new developments in the field of osteoporosis. Awareness of paramedical staff about osteoporosis is limited at present. Training programs for medical officers and paramedical staff are organized by Osteoporosis Sri Lanka. Guidelines by the Sri Lankan Medical Association and Osteoporosis Sri Lanka are available, and a South Asian Society for Bone and Mineral Research has been formed. The primary objective is to promote local and collaborative research within the region. With osteoporosis being addressed to a greater extent in medical curricula, the newer generation of doctors would be better prepared for the challenges that this disease poses.

Corporate partnerships have enabled wider dissemination of information materials and regular public lectures. Thus there is increasing awareness among the public in urban areas, but a lot needs to be done in the rural areas.
In summary, there is a need for countrywide fracture data to convince health authorities of the seriousness of the issue. More data about vitamin D status of the population will help to formulate strategies regarding nutrition. Awareness programs for medical professionals need to be more structured, frequent and widespread to educate and empower physicians and surgeons. A sustained public awareness campaign through the media is urgently required. More education and awareness should automatically translate into better diagnostic facilities. Reimbursement policies are in place in Sri Lanka but the availability of drugs is a concern especially for low income groups who depend on medical facilities provided by government hospitals.

In Sri Lanka, like in many other countries, there is a great urban / rural divide. The rural population has limited access to diagnostic technology and osteoporosis treatment.

References

1. U.S. Census Bureau, International Data Base.
7. Rodrigo MD. Peak bone mass measured by phalangeal BMD and its association with nutritional status, socioeconomic status and physical activity: A community based cross sectional study in Galle district, Sri Lanka. 2007; Extract from PhD thesis