CUBA

OVERVIEW

Cuba, despite its status as a developing country, has a large and powerful health system based on the national primary care system. This system covers all provinces linked to secondary and tertiary care as well as research centres.

Healthcare is free by law, and private practice is not allowed. This state support has proven to be invaluable. There are structured health programmes including those for maternal and child health, comprehensive women’s healthcare, elderly care, comprehensive rehabilitation, care for the disabled, as well as those for chronic non-communicable diseases which include osteoporosis and related fractures.

Having several ultrasound scanners (and 25 DXA machines), distributed throughout the country, facilitates the diagnosis of low bone mass and fracture risk among the Cuban population.

Studies performed in Cuba have provided insights into the peak bone mass of its population compared with other countries’ populations. Data, from the Statistical Office of Cuba’s Ministry of Public Health (MINSAP), indicated a progressive increase in osteoporotic hip fractures between 2006 (9295) and 2010 (16 878). A study has suggested that osteoporotic hip fracture rate is likely to be similar to that in other Latin American countries. In a community-based sample of 3155 adults aged 15 to over 80 years, 36 participants had experienced a low trauma fracture (equivalent to 1140 per 100 000) and of these, 11 had experienced a hip fracture (equivalent to 340 per 100 000). However, the study design does not allow accurate estimates of future incidence rate or total number osteoporotic fractures as the population grows.

In the fields of rheumatology, endocrinology, gynaecology, nutrition, geriatrics and orthopaedics, care of postmenopausal women and hip fracture care are well integrated. Despite this, increased prevention measures are still essential.

Osteoporotic fracture incidence and mortality rates are increasing, creating a socioeconomic burden and damaging the quality of life for Cuban residents. Annual deaths due to hip fractures increased from 1877 deaths in the year 2006 to 2553 deaths during the year 2010. There were more deaths in women than in men.

There are some data available from various small epidemiological studies, but there is still a dearth of large-scale epidemiological studies aimed at determining the national prevalence and incidence of osteoporosis and its associated fractures. Studies are also needed to establish major osteoporotic risk factors, and the extent of the socioeconomic impact osteoporosis will have on the nation. Strategies and programmes must be established based on these studies in order to minimize the impact of this disease.

These carefully designed population surveys should be implemented by health authorities and scientific associations to deepen the understanding of the magnitude of the problem. Prevention, improvements in lifestyles, and health promotion should continue to be priorities. More diagnostic studies should be done among the population determined to be at risk in order to reduce the morbidity and mortality due to osteoporosis related complications.

Scientific conferences such as the congresses of rheumatology, endocrinology, nutrition, menopause and climacteric gynaecology are forums for discussion and analysis of the problem of osteoporosis in Cuba, and in the world.

KEY FINDINGS

Population growth statistics

The present population of Cuba is estimated to be 11.1 million, of which 28% (3.1 million) is 50 years of age and older and 7.6% (842 000) is 70 years and older. By 2050, it is estimated that the total population will fall to 9.2 million. Despite the decline in total population the number of older people will continue to rise and 49% (4.5 million) will be 50 years of age and older and 23% (2.1 million) will be 70 and older (fig 1).
Epidemiology

There is a dearth of epidemiological data for osteoporosis in Cuba. A 2009 community survey of 3155 men and women (mean age 47.9 years) revealed 36 with previous low trauma fractures. This is equivalent to 1140 previous fractures per 100 000 people, but it is not possible to accurately estimate the true prevalence of past fracture in the whole population, due to differences in age distribution and other factors between the studied cohort and the country as a whole.1

Hip fracture

In the year 2006, 9295 hip fractures were recorded in Cuba. This number has increased steadily over the years as evidenced by the 16 878 cases reported in 2010 (Ministry of Public Health (MINSAP)). Local Cuban medical societies report that 100% of hip fractures with surgical indications are treated surgically as access to the healthcare system is free for all. The hospital costs for treating a hip fracture are assumed by the Cuban government by constitutional law. Although treatment of the fracture is provided at no cost to the citizens of Cuba, the estimated cost to the government is between 8600 to 12 000 USD, which includes the prosthesis. There are variable periods of rehabilitation and social reintegration after hip fracture. The state ensures patients are cared for at every stage of recovery. The average hospital bed stay for a hip fracture patient is seven to ten days.

Vertebral fracture, other fragility fractures

There are minimal data regarding the number of vertebral fractures occurring in Cuba. A 2009 community survey revealed four vertebral fractures in a set of 3155 men and women ranging in age from 15 to 80. According to the national society, 100% of spine fractures patients that enter a health center are treated, but, as in the rest of the world, it is likely that a substantial proportion do not reach medical attention.

Diagnosis

In Cuba there are 25 DXA machines allowing for approximately one DXA machine per 400 000 inhabitants. The machines are widely distributed with 10 machines located in the area of the capital. The average length of wait for a DXA scan is three to seven days. There are no data on the availability and use of ultrasound machines.

Reimbursement policy

There is no cost for a DXA scan in Cuba. The state assumes all healthcare costs of its citizens. Private health care insurance is not allowed.

Calcium and vitamin D

Calcium and vitamin D supplements are available in Cuba, however, there is little availability of foods fortified with calcium and vitamin D.

PREVENTION, EDUCATION, LEVEL OF AWARENESS

Osteoporosis, and its associated fractures, is recognized as a major health problem in Cuba. The government has a wide variety of public awareness programmes covering prevention, diagnosis and management of osteoporosis. Programmes also exist for the elderly, disabled and those affected by chronic illness. National osteoporosis health practice guidelines, developed by a group of nutrition experts, are available and can be referenced at the National Ministry of Public Health Nutrition. The Cuban Societies of Rheumatology, Gynecology & Obstetrics, and Endocrinology along with other experts developed a national guide finished in 2010, pending publication. There are governmental health professional training and development programmes sponsored by both the Ministry of Public Health and national scientific societies.
There are no patient support groups in Cuba. Public health awareness programmes are supported through written media as well as via radio and television programmes. These programmes focus on promotion of healthy lifestyles that will in turn improve the quality of life for Cuban residents. The Cuban government funds all public awareness and education campaigns carried out by scientific institutions, medical societies and committee of advisors to the Ministry of Health.

Training related to osteoporosis is not integrated into the medical school curriculum in Cuba, but local experts state that all physicians are informed and well equipped to treat patients with osteoporosis. There has been a joint effort among all osteoporosis specialists and a National Osteoporosis Consensus was published in 2010. This consensus was a joint effort among the Cuban Society of Endocrinology, the Cuban Society of Rheumatology, and the Consensus Group of Gynecology and Menopause.

**RECOMMENDATIONS**

- Joint actions are needed between the Ministry of Public Health, the advisory groups to the Minister of Health (MINSAP), and the scientific societies to minimize the health impact of osteoporosis in Cuba.
- Mass distribution of prevention information such as the importance of breastfeeding, smoking cessation, limiting alcohol intake and leading an active lifestyle is necessary.
- World Osteoporosis Day should be used as a focus around which to develop more activities promoting osteoporosis awareness.
- There is a need to complete large-scale epidemiological studies aimed to determine the national prevalence of osteoporosis and the incidence of associated fractures. Studies are also needed to establish major osteoporotic risk factors, and the extent of the socioeconomic impact osteoporosis will have on the nation. Strategies and programmes must be established based on these studies in order to minimize the impact of this disease.
- Prevention, improvements in lifestyles, and health promotion should continue to be priorities. More diagnostic studies should be performed among the population determined to be at risk in order to reduce the morbidity and mortality due to osteoporosis related complications.

**REFERENCES**

2. U.S. Census Bureau, International Data Base 2011