Guatemala

Overview

Osteoporosis is currently defined as the silent epidemic disease of the new century, affecting the entire world population. In Guatemala it has not been given the importance it truly deserves. There is a belief that the population has no increased risk for developing osteoporosis because of race, tropical sun exposure during agricultural activity, the climate, and dietary practices which include daily frequent consumption of tortillas. However, there are some studies and publications of fracture risk, using FRAX®, in which it is clear that there is a significant osteoporotic fracture risk in women over 50 years in Guatemala. Application of FRAX demonstrates a statistically normal distribution of fracture risk among the studied population, similar to that found in other Hispanic populations.

The Guatemalan medical community recognizes that BMD (Bone Mineral Density) measurements are an important population screening tool. However, in Guatemala, it is not possible to have a DXA scanner in each clinic or in each health center. Maintenance and training of personnel to operate the machine and to interpret the results costs 2.5 times more than simply treating patients with high fracture risk identified using a simple screening survey. As long as there are no nationwide studies, the BMD values of the Guatemalans will remain unknown.

Due to its lower cost, the peripheral DXA technique is the most common and standardized test used in private practice in Guatemala. However, peripheral studies are best used as screening tests for patients at risk, not for diagnosis.

Given the socio-economic conditions of Guatemala, the use of index FRAQO (GT) provides a practical and effective tool that allows screening of the population at risk at a very low cost. It is unfortunate that the Guatemalan health authorities do not yet recognize this tool as a valid predictor of fracture risk. A significant increase in fractures is predicted over the next 10 years, reaching an alarming increase of 36%.

In Guatemala, there are no statistical records indicating the prevalence of diseases that affect the majority of the population. The INE (National Statistics Institute) and MSPAS (Ministry of Public Health and Social Support) report on limited pathologies. In the case of osteoporosis, it represents a major public health problem due to the incapacitating nature of resulting fragility fractures. There is no central database that can be used to identify those menopausal and post-menopausal women who are at risk and are prone to suffering from osteoporosis. Therefore, prevention of fractures and education of the public at risk is challenging.

Key Findings

Population growth statistics

The present population of Guatemala is estimated to be 13.8 million, of which 12% (1.7 million) is 50 years of age and older and 2.3% (319 000) is 70 years and over. By 2050, it is estimated that the total population will rise to 23 million, of which 28% (6.4 million) will be 50 years of age and older and 6.6% (1.5 million) will be 70 years and older (fig 1).

Figure 1: Population projection for Guatemala until 2050

Source: US Census Bureau
Epidemiology

Based on data collected at various institutions on pre and post menopausal women, the AGCYM (Asociación Guatemalteca de Climaterio y Menopausia) estimates that 36.6% of this population group has osteopenia and 20% have osteoporosis.

Hip fracture

With the use of data from Quiñonez1, the AGCYM estimates that 512,024 hip fractures will occur in Guatemala in the year 2020. Recent data shows that post-menopausal urban woman over 50 years have a 27.94% probability of hip fracture and 23.3% probability of any osteoporotic fracture at 10 years determined by FRAX using the Hispanic population database1.

According to the AGCYM, approximately 70% of hip fractures are treated surgically. The direct hospital cost for treating a hip fracture ranges from 3750 - 4000 USD. Indirect hospital costs are estimated at 3000 USD. It is estimated that for each hip fracture, four to six months of productivity are lost in the workplace. The average hospital bed stay for a hip fracture patient is 4 - 14 days.

Vertebral fracture, other fragility fractures

No available information.

Diagnosis/training course

Guatemala has an estimated 13 DXA machines3 allowing for one DXA machine per one million inhabitants. There is one ultrasound scanner per 200,000 inhabitants. There is no available information regarding length of wait for these diagnostic tests.

Reimbursement policy

The cost of a DXA scan is 75 USD. The cost of an ultrasound scan is 20 USD. No information is available regarding reimbursement of these services.

Calcium and vitamin D

Calcium, vitamin D supplements, and fortified foods are available in Guatemala. One study, in older Mayan residents of the western highlands of Guatemala, showed that despite ample sunlight, vitamin D levels were low4. Figure 2 illustrates the variability in the subjects vitamin D levels based on gender and whether or not they were urban versus rural dwellers.

FIGURE 2 Distribution of study participants with varying Vitamin D (25 (OH)D) levels according to gender and area, adapted with permission4

PREVENTION, EDUCATION, LEVEL OF AWARENESS

Osteoporosis is not recognized as a major health problem and there are currently no government public awareness programmes covering prevention, diagnosis or management of osteoporosis. Governmental physician guidelines do not exist. There is no governmental health professional training on osteoporosis and there are currently no approved governmental guidelines for osteoporosis treatment or prevention.

There is no information on the existence of patient support groups or public health awareness programmes in Guatemala.

At the private level, health care professionals are better equipped to care for patients with osteoporosis as diagnostic machines, and ancillary support via nutritionists, physiotherapists and counselors are available.

RECOMMENDATIONS

• Raise awareness among the Guatemalan health authorities about osteoporosis and its economic impact in the future.
More DXA machines are needed to adequately screen the country’s population. Machines need to be more widely distributed and available in rural areas and public institutions.

Development of a central osteoporosis database to assist researchers in conducting epidemiological studies to provide better information on the state of osteoporosis in Guatemala.

REFERENCES

3. Kanis JA (2011) data on file

A REDUCTION IN THE NUMBER OF FRAGILITY FRACTURES WILL ENABLE MILLIONS OF LATIN AMERICAN SENIORS TO LEAD INDEPENDENT AND PRODUCTIVE LIVES WELL INTO OLD AGE.