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Epidemiology of osteoporosis in Latin America 2008

Gregorio Riera-Espinoza, MC⁽¹⁾

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Abstract

Osteoporosis is a growing disease in Latin America, rates of fractures actually in LA are quite similar to the ones in Southern Europe and slightly lower than USA and Northern Europe. According to the population projection of the WHO subjects over 65 of age will increase significantly in the next 50 years in LA and the number of hip fractures in this area will equal the numbers in Europe and USA. Unfortunately, in LA there are not adequate resources in terms of medical facilities for osteoporosis diagnosis, treatment or rehabilitation. Moreover, there are no policies of reimbursement for osteoporosis densitometry, bone markers measurements or medications in many countries or it is very limited in the ones who have started some kind of specific program for this matters. Thus, we have to face this public health problem by increasing the awareness of the disease in the general population, specific risk groups, schools, journalists or politicians. Improve medical education at different levels: Medical students, General Practitioners, Specialists, Nurses, and Social Workers. And, we have to develop enough influence to Public and Private Health Systems in order to make them to develop specific osteoporosis programs to cover a wide range of the population in LA, who actually is absolutely abandon of this kind of support.

Key words: osteoporosis; Latin America; public health

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Resumen

La osteoporosis es una enfermedad que se vuelve cada vez más frecuente en América Latina. Su prevalencia es muy parecida a la encontrada en Europa del Sur y ligeramente más baja que en Europa del Norte y en la población blanca de los EUA. De acuerdo a las proyecciones de población de la OMS, el número de fracturas que se registrarán en la región de Latino América en los próximos 50 años casi igualará los números encontrados en EUA y Europa. Desafortunadamente en Latino América no hay recursos médicos suficientes para el diagnóstico, tratamiento y rehabilitación de la osteoporosis. En muchos países no existen leyes (o son muy limitadas) que garanticen el pago de los estudios de densitometría ósea, las medidas de prevención o los medicamentos para tratarla. Actualmente, es posible enfrentar este problema de salud pública generando conciencia de la enfermedad en el público general, en los grupos de riesgo y en las escuelas, con el apoyo de periodistas y sensibilizando a los políticos. También se debe mejorar la educación médica a nivel de las escuelas de medicina, entre los médicos generales, los especialistas, las enfermeras y los trabajadores sociales; se debe lograr suficiente influencia en el sistema de salud pública y privada para hacer que se desarrollen programas específicos contra la osteoporosis, que cubran al amplio rango de población Latinoamericana que actualmente no tiene ninguna clase de apoyo.

Palabras clave: osteoporosis; América Latina; salud pública

(1) UNILIME. Universidad de Carabobo, IVSS. Valencia, Venezuela, IOF Board. Latin American Program

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Address reprint requests to: Gregorio Riera-Espinoza. Urb. El Bosque, Av 111, Residencias Terrazas del Paraíso, Apto. 12B, Valencia 2001, Venezuela.
E-mail: rieragregorio@gmail.com

Population

The population of LA and the Caribbean was 524 million in year 2000. 5.57% were 65 years and older. Total population will grow 16% by 2010 but people over 50 will grow 28%. In Argentina and Uruguay this group was over 10%, 9.6% in Cuba and 7.2% in Chile. Inhabitants aged 50 and over represent 14.62% of the total population ranging from 9 to 26.9% among different countries. In terms of ethnic composition, the Mestizo group predominates in most Latin American countries. Information regarding fracture incidence in different ethnic groups is lacking with the exception of a few studies in North America.

Life expectancy in the region reached 70 years and mean Gross National Income ranges from 410 to 7 550 USD with a mean of 2 776 USD. Access to medical care is variable from country to country though most of them have social security systems, but a high proportion of the population use a free-for-service model where policies of reimbursement for osteoporosis diagnosis and treatment is uncommon.¹⁻⁴

Prevalence of low bone mass

Peak bone mass and bone loss with age is similar in Latin American countries in comparison to the US, the prevalence of vertebral osteopenia in women 50 years and older range from 45.5 to 49.6% and vertebral osteoporosis from 12.1 to 17.6%. In femoral neck osteopenia is present from 46 to 57% and osteoporosis from 7.9 to 22%.⁵⁻¹¹ In Brazil, 10 million people, approximately one person in every 17, has osteoporosis.¹²

In Chile, in 1985, a large clinical trial of women older than 50 indicated that 46% had osteopenia and 22% had osteoporosis.¹³

In Mexico, in 1998, one out of every four people has osteopenia or osteoporosis; some 24.5 million people; Mexicans suffer more than 100 hip fractures daily.¹⁴

Prevalence of osteoporotic fractures

Hip fractures

From 1990 to projections in 2050 the number of hip fractures for women and men aged 50-64 in Latin America will increase by 400%. For age groups older than 65 the increase will be a staggering 700%.¹⁵ Latin Americans will suffer an estimated 655 648 hip fractures in 2050, at an estimated direct cost of \$13 billion.¹⁶

In Venezuela, in 1995 there were 9.6 hip fractures per day. In 2030 it is estimated that there will be 67 hip

fractures per day. Of the people who suffer a hip fracture, 17% die in the first four months after the fracture. Clinical trials indicated that only 10% of the population older than 70 years have normal bone mineral density.¹⁷

Hip fracture incidence has been reported in Community-based and hospital discharge studies. The incidence ranges from 263 to 304 hip fractures/100 000 persons in community studies and from 40 to 362 in hospital-based ones. As a comparison, hip fracture incidence is 331 in Rochester US.¹⁸⁻³¹

Annual rates of hip fracture in the two main public health care systems of Mexico, published in 2005 were 169 in women and 98 in men per 10 000 person-year. This is the same to say that 1 out of every 12 women 50 year-old in Mexico will have a hip fracture. These rates of hip fracture are similar to the southern countries in Europe. The life-time probability of having a hip fracture at 50 years of age was 8.5 for women and 3.8 for men, this is similar to what has been found in Hong Kong and slightly lower than the observed in Spain, Portugal and France. These data support the evidence that with the increase in the fracture incidence in the next 50 years, the magnitude of the osteoporotic fracture health problem required extensive evaluation from the health care systems not only in Mexico but in the whole Latin America.³²

Recently in Rosario Argentina hip fractures were reported to be, in subjects over 50 years, 405 for women and 137 for men. In population older than 65 years the incidence was 646 and 345 respectively. These values are similar to US values reported in people older than 65 years.^{33,34} Mean age was 79.5 year-old. This incidence of hip fracture is slightly higher than the one reported 10 years ago in another city of Argentina, Mar de Plata.³⁵

Very recent data accepted for presentation at the next WCO, Bangkok, 2008 from Venezuela show that the incidence of hip fracture for women over 50 years was 98 and for men 37 per 100 000. The life-time probability of having a hip fracture at 50 years of age was 5.5% for women and 1.5 for men, and for any osteoporotic fracture was 13.6% for women and 3.5% for men. 10 year probability of any osteoporotic fracture goes from 1.6% at ages 50-59 to 9.5 at age 80+ for women and from 0.2% to 3.1 in men. At age 80 hip fracture incidences in Venezuela are similar to many European countries like Spain, France, Greece, Hungary Italy or Portugal.³⁶

Mortality rates are similar than the rest of the world going from 1.02 to 10% during hospital stay and 23 to 30% during the first year after fracture. This mortality rate was higher in men than women.^{14,20,25,31,37,38} In a private hospital in Mexico mortality rate was 9.8 for patients who underwent surgical procedures and 33.3% for those who received conservative treatments.³⁹ This

contrasts with Venezuelan data coming from a Public University Hospital where mortality rates for patients who did not receive surgery was as high as 92%.⁴⁰

Vertebral fractures

Less information is available in this area, however, data from the LAVOS, Latin American Vertebral Osteoporosis Study have been published recently showing that the prevalence of vertebral fractures in women 50 years and older is 19.35%, it ranged from 8.3% in those 50-60 y-o to 37% in those 80 years and older.⁴¹ By countries, fracture incidence was 14.8 in Brazil, 12.1 in Puerto Rico and 19.5 in Mexico and increases with age. Mexico has the same prevalence as the US in subjects over 70 years, according to the SOF Study.⁴² In Mexican men the prevalence of vertebral fracture is half of what is found in women, 9.7 vs. 19.5, with the highest rate in older subjects over 80 years: 21.4. This supports the evidence of the impact of osteoporotic fractures in men in LA as equal as it is in the rest of the world.⁴³

Cost

There is a wide variation in cost across the region and the information is very scarce. From the few reports available and a recent questionnaire-based study addressed to rheumatologists and experts in osteoporosis in LA, and considering the cost in USD, an acute episode of hip fracture ranges from 5 500 to 8 500 USD with a mean GNI of 2 776 USD for the whole region. Indirect cost like diagnosis, medication, rehabilitation, medical follow-up has not been estimated so far.⁴⁴ In the year 2002 reported cost for wrist fractures was 2 063 USD and 2 751 USD for vertebral fractures.⁴⁵ In the same period 2001-2002 the estimate of total investment for the Mexican Institute of Social Security was more than 36 million dollars.⁴⁶

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