Ukraine

Overview
In recent decades the problem of osteoporosis has become particularly significant for Ukraine because of two closely related demographical processes: a sharp increase in the number of frail elderly people and an increase in the number of postmenopausal women — the two groups most at risk of osteoporotic fracture.

Currently, 23.1% (of which, men 18.1%, women 27.3%) of the Ukrainian population is aged 60 years or over. The number of people with osteoporosis and its complications is increasing. The predicted number of postmenopausal women having osteoporosis or osteopenia in Ukraine comprises 7 million (28% of the total number of women). The Ukrainian population has a marked deficit of calcium and vitamin D consumption. However, at the present time there are no developed programmes to correct the above-mentioned deficit.

An analysis of the Ukraine population revealed a high frequency of risk factors for osteoporosis in different age groups. These include deficits in calcium and vitamin D consumption, smoking, sedentary lifestyle, and early menopause. At present the general population’s awareness of the problems of prevention and effective treatment of osteoporosis remains low.

In addition, the Medical Society has lately increased its attention to the problems of osteoporosis prevention and treatment. Regional centres for the diagnosis and treatment of osteoporosis have been established and equipped with modern apparatus. However, the access to qualified treatment of osteoporosis is still insufficient, especially in remote regions of the country. Currently, medical institutions in the Ukraine are under-equipped with densitometers, and rehabilitation programmes after hip and vertebral fractures are not widely introduced.

Key findings
The population of the country is 46 million people (21 million men and 25 million women) and the numbers of people aged 50 years and older is 16 million (35% of the total population). It is predicted that the population of Ukraine will be 39 million people by 2050 and thus 44% of the population will be 50 and over and 16% will be 70 and over (fig. 1).

Figure 1 Population projection for Ukraine until 2050

In Ukraine the estimated number of postmenopausal women with osteoporosis risk and osteopenia is 7 million (28% of total number of women). According to research carried out in 2007-2008 by the Ukrainian Scientific Medical Centre using DXA, it is estimated that 2 million postmenopausal women suffer from osteoporosis. Osteopenia was estimated in 4.6 million men and 5.8 million women.

Hip fractures
The incidence of osteoporotic hip fractures from 1997 to 2002 in Vinnitsa (Ukraine) is presented in the table shown. During this period the frequency of hip fractures varied from 117.1 to 171.1 per 100,000 population of 50 years and older and was almost twice
as high in women as in men. These data are slightly lower than might be expected from comparison with other European countries, which may indicate lack of diagnosis of these fractures.

<table>
<thead>
<tr>
<th>Year</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>118</td>
<td>115.9</td>
</tr>
<tr>
<td>1998</td>
<td>161.4</td>
<td>106.3</td>
</tr>
<tr>
<td>1999</td>
<td>171.4</td>
<td>123.1</td>
</tr>
<tr>
<td>2000</td>
<td>217.4</td>
<td>109.4</td>
</tr>
<tr>
<td>2001</td>
<td>209.1</td>
<td>97</td>
</tr>
<tr>
<td>2002</td>
<td>169.2</td>
<td>123.1</td>
</tr>
</tbody>
</table>

### Vertebral fractures

No available information

### Wrist fractures

The incidence of osteoporotic fractures of the wrist was significantly higher\(^{2,3}\). The highest figures were found in 60-64 year age group (women 1940.0; men 403.1 per 100,000 population), 70-74 years (women 1987.0; men 399.3 per 100,000) and 75-79 years (women 1986.2; men 422.7 per 100,000). This type of fracture also predominated among women.

The incidence of wrist fractures in women increases from 55-59 years to its maximal level at the age of 75-79 years with a following decline at the age of 80 years and older. These rates reliably exceed the incidence of fractures in men of all age groups.

### Diagnosis

In Ukraine there are 14 DXA machines located in Kiev, Kharkov, Dnipropetrovsk, Donetsk, Ivanovo-Frankovsk, Ternopol, Odessa and other cities, as well as over 30 QUS scanners. The cost of one examination with a DXA scan varies from 10 to 30 USD. At present densitometry is not paid for by the government; however in the Ukrainian Scientific Medical Centre some categories of citizens (disabled, victims of Chernobyl’s nuclear power plant accident, etc.) have free access to examination.

### Reimbursement

At the present time no treatment of osteoporosis is supported by the state.

### Calcium and vitamin D

According to V. Povoroznyuk et al. (2010)\(^5\), most of the Ukrainian population has vitamin D insufficiency or deficiency. A low level of vitamin D has been observed in more than half the population of the older age groups (at 40-49 years 57.1%, 50-59 years 57.2%, 60-69 years 62.1%. 70-79 years 48.2%) (Fig. 2).

The analysis of children’s, adolescents’ and postmenopausal women’s diets reveals a low calcium intake with food: the average level of calcium consumption is only 450 to 600 mg/day. Fewer than 5% of postmenopausal women obtain more than 1000 mg calcium a day in their diets\(^6\). Currently, enriched food with calcium and vitamin D is not used in Ukraine (Fig. 3).
Prevention, education, government policy

In 2009 National Clinical Recommendations on Osteoporosis were published, which are the national standards of medical care.

Ukrainian public organizations with interests in the field of osteoporosis are the following:

- The Ukrainian Osteoporosis Association, which is a member of the International Osteoporosis Foundation, and regularly conducts scientific conferences for Ukrainian doctors;
- The Ukrainian Association of Menopause, Andropause and Musculoskeletal Diseases which is a member of European Menopause & Andropause Society;
- Patients’ Association ‘Ukraine without Osteoporosis and Fractures’ that works within the Ukrainian Osteoporosis Association.

Since 2007 in the city of Yaremche, seminars on ‘Musculoskeletal system and age’ have been carried out annually with the support of the European Society for Clinical and Economic Aspects of Osteoporosis and Osteoarthritis. In these courses, local and international scientists give lessons on modern methods of diagnosis and treatment of osteoporosis to doctors from different regions of Ukraine.

References