

# THE ANNUAL AGE-ADJUSTED INCIDENCE OF HIP FRACTURES IN GOMEL AREA IN THE REPUBLIC OF BELARUS IN 2007-2010

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**Keywords:** *hip fracture, osteoporosis, epidemiology*

**Objectives.** Low-trauma fractures in elderly people are a major public health problem. The most complicated social-medical consequences can be observed in particular under hip fractures.

**Aim.** The objective of this study was to define the current hip fracture rates at persons over age 50 residing in Gomel city and Gomel area for the period of 2007-2010.

**Materials and methods.** For estimation of the annual age-

adjusted incidence of hip fractures there was used the algorithm to calculate all disease cases including: collection of information about emergency calls on low-trauma fractures of the proximal humerus, verification of hip fracture cases at patients transported by emergency teams into medical institutions providing stationary help and calculation of the annual age-adjusted incidence parameters based on the statistical data of average annual urban and rural population by ages with the interval of 5 years. The hip fracture case was admitted to be verified if a discharge lists of the patient who left the hospital contained the following main diagnosis S72 (ICD-10) with completion of orthopedic surgery, skeletal traction or immobilization.

**Results.** The study was provided in the region with the population of about 570.6 thousand people, out of them over age 50 – 176,1 thousand (30.9%). Totally 726 patients, 487 (67.1%) females and 239 (32.9%) males, were transported to the hospital for treatment of an acute hip fracture in 2007-2010. The general number of fractures in 2007 made up 182, in 2008 – 186, in 2009 – 200 and in 2010 – 158, and there was not marked statistically significant decrease of incidence parameters ( $p>0.05$ ). The average parameters of the annual age-adjusted incidence for the indicated period made up at males aged 50-54 from 35, 1/100 000 up to 278, 4/100 000 at males aged over 80. The similar parameters at females made up 12, 8/100 000 and 558, 2/100 000, accordingly. The ratio of incidence parameters at males and females aged over 50 was equal to: male:female=1:1.3. Under the comparison of incidence parameters between urban and rural population there was not obtained statistically significant differences ( $p>0.05$ ). There were not marked differences between the parameters of the annual age-adjusted incidence at males and females except for age group over 80 ( $p=0.017$ ).

**Conclusions.** The annual age-adjusted incidence of hip fracture at residents of Gomel area aged over 50 in 2007-2010

made up 35.1–278.4/100 000 in men and 12.8–558.2/100 000 in women. Hip fractures in male population aged 50-80 can be met with the same frequency as among females.