INCIDENCE OF HIP FRACTURE IN 2010 IN LITHUANIAN RESIDENTS OVER 40 YEARS OF AGE

Marija Tamulaitiene[1,2], Asta Mastaviciute[3], Vidmantas Alekna[2,3], Matas Urmanavicius[3], Raminta Martinaityte[3]

[1] Department of Rehabilitation, Physical and Sports Medicine, Faculty of Medicine, Vilnius University, Lithuania;
[2] National Osteoporosis Center, Vilnius, Lithuania; [3] Faculty of Medicine, Vilnius University, Lithuania

Introduction

With the growing size of the elderly population, osteoporotic fractures and disabilities resulting from them have a major impact on health. Several studies have analysed the global burden and the number of fractures caused by osteoporotic process: hip fracture sufferers were estimated at 56 million worldwide, with a female-to-male ratio of 1.6:1 [1-3]. The burden of hip fractures has increased considerably throughout the world over the last few decades as the number of elderly persons has increased [4]. Femur fractures affect particularly elderly people and it is associated with changes of bone density and osteoporosis. Hip fractures have become the international osteoporosis prevalence indicator. However, osteoporosis in Lithuania is still under-reported on hospital discharge forms as co-morbidity, even in elderly patients with hip fractures. Very little data are available about the incidence and consequences of fractures in Lithuania [5].

Objective

To assess the incidence and distribution of hip fractures by sex and age among individuals over 40 years in Lithuania in 2010.

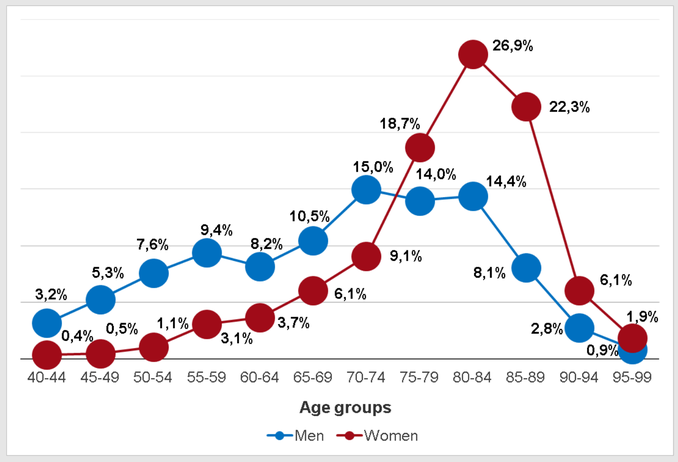
Material and Methods

This population-based study was performed collecting the data from all orthopaedic-traumatology inpatient departments in Lithuania. The case histories of Lithuanian residents over 40 years who had suffered a hip fracture in 2010, were examined. Subjects with primary hip fracture (ICD-10 codes S72.0, S72.1 and S72.2) were included. Exclusion criteria were re-admissions for the same fracture, non-residents of Lithuania, individuals without identified place of residence. The incidence was calculated using the population data of Lithuania in 2010. Multivariate regression analysis was performed to evaluate the impact of gender, age, fracture circumstances and localization, type of treatment, urban and rural regions. The study protocol was approved by the local Ethical Committee.

Results

In total, 2518 subjects (76.4 11.6 years) were included in this study, of whom 741 (29.4%) were men and 1777 (70.6%) women. Women suffered from hip fracture 2.4 times more often and at the elder stage of life than men: an average age was 79.2 9.6 years in women and 68.8 13.3 years in men. The hip fracture incidence rate was estimated in different age groups on purpose to identify the most exposed one. Overall, the incidence per 100 000 persons was significantly higher among women than men: 192.9 and 111.4 respectively (p<0.001). Among men, the largest group (15%) were aged 70–74 years, and in women 26.9% of fractures occurred at the age of 80–84 years. Diagram 1 reflects the distribution.

Diagram 1. *Hip fracture incidence in different age groups by gender*



After the age 75, more women (76.1%) than men (40.8%) had a hip fracture (p<0.001). Moreover, in the same age group, the fracture incidence was higher in urban than in rural residents (685 and 555 /100 000, respectively; p<0.001). The data is summarized in Table 1.

Table 1. *Hip fracture incidence among men and women living in urban or rural areas (per 100 000 persons)*

Gender	Residence					
	40-74 years			75 and more years		
	Urban	Rural	Total	Urban	Rural	Total
Male	69	74	71	425	348	396
Female	52	56	53	792	639	734

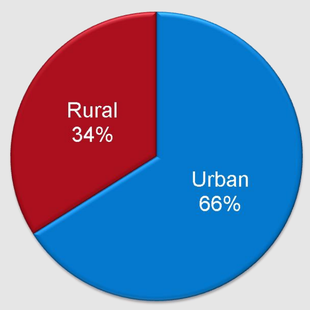
Low trauma fractures were significantly more frequent among both genders (women 89.5%, men 80.8%) as well as a treatment by osteosynthesis (women 58.9% and men 67.5%). There were no differences between men and women in the frequencies of left-sided and right-sided fractures (p=0.295) as well as in fracture type (p=0.358), Table 2.

Table 2. *Clinical characteristics of individuals who suffered from hip fractures*

Characteristic	Indication	Number of patients	
		Absolut number	Percents (%)
Gender	Male	741	29,4
	Female	1777	70,6
Localization of hip fracture	Neck	1296	51,5
	Intertrochanteric	1050	41,7
	Subtrochanteric	172	6,8
Fracture side	Left	1247	49,5
	Right	1271	50,5
Degree of trauma	Low	2189	86,9
	Minimal	282	11,2
	High	47	1,9
Treatment type	Osteosynthesis	1546	61,4
	Endoprosthesis	652	25,9
	Conservative	206	8,2
	Other	114	4,5

Two thirds of subjects were urban residents (Diagram 2). No further differences in hip fracture incidence and average age of fracture were found between urban and rural residents.

Diagram 2. *Urban and rural residents ratio*



Conclusion

In Lithuania, in the year 2010, hip fracture incidence was 111.4 per 100 000 men and 192.9 per 100 000 women above the age of 40 years. In the age group of 75 and above, the higher incidence of hip fracture was found in urban than in rural residents.

References

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Disclosure

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Contact address: marija.tamulaitiene@mf.vu.lt