

Costs of Hip Fractures in Postmenopausal Women in Portugal: A Study from the Payer's Perspective

Custos das Fraturas da Anca nas Mulheres Após a Menopausa em Portugal: Um Estudo da Perspetiva do Pagador

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Palavras-chave: Custo da Doença; Fraturas da Anca; Osteoporose; Prestação de Cuidados de Saúde; Pós-Menopausa

Dear Editor,

Osteoporosis and osteoporosis-related fractures are an important public health problem in Europe, with large economic consequences to society, like other non-communicable diseases.¹ Among all osteoporosis-related fractures, hip fractures are the most well-studied, as they always require hospital admission. In Europe, Portugal has the highest female/male hip fracture ratio (2.6).¹ Postmenopausal women are a particularly vulnerable group for osteoporosis and low-impact fractures, as menopause significantly speeds up bone loss.² A clear understanding of the economic burden of hip fractures in Portugal requires an estimation of the costs of hip fractures in postmenopausal women (i.e., women aged over 50), by focusing on direct costs from healthcare resource consumption in the first year following a fracture.

The annual number of hip fractures in Portugal was retrieved from the national Diagnosis Related Groups (DRG) dataset for 2014, which covers all hospital admissions in the Portuguese National Health Service (SNS). The number of hospitalization episodes for women aged over 50 was extracted using the diagnosis code "820 - fracture of the neck of femur" (ICD-9-CM classification), following previous studies.³ Information on the standard healthcare resources used by women aged over 50 with osteoporosis who have suffered a hip fracture was obtained from an informal panel of experts (two rheumatologists, a physiatrist, and an orthopedic surgeon). The following healthcare resources were

considered: doctor visits, diagnostic tests, hospitalization, and physiotherapy. Utilization amounts were multiplied by unit costs from several sources. Specialty consultations were valued at the lowest price in the terms defined by the Central Administration of the Health System for 2021 (€39 per visit), and general practice/family medicine visits were valued at half that amount (€19.50). The costs of the remaining resources were proxied by the national tariffs practiced in the SNS.⁴

In 2014, there were 9 440 hospitalization episodes in SNS hospitals with hip fractures in women aged over 50. The total direct cost of hip fractures among women aged over 50 in Portugal was estimated at more than €57.5 million (Table 1). The comparison of our data with previous studies conducted in Portugal is challenging due to differences in methodologies.⁵ Our previous work has shown that non-hip fractures in Portugal are leading to excessive healthcare costs of €74 million per year.⁶ Nevertheless, knowledge of the direct annual costs of hip and non-hip fractures in Portugal can alert policymakers to the need to establish health indicators in primary healthcare in order to prevent these fractures (for example: reducing the proportion of adults with osteoporosis, reducing hip fractures among older adults, increasing the proportion of older adults who get screened for osteoporosis, increasing the proportion of older adults who get treated for osteoporosis after a fracture). This can be achieved through the use of clinical algorithms for fracture risk estimation, such as the FRAX[®], which is a tool that stratifies individuals according to the risk of fracture and, therefore, to the need of pharmacological intervention as well.

AUTHOR CONTRIBUTIONS

AB: Drafting, critical review, and approval of final version of the manuscript.

JG, CM, HC, AMR: Critical review and approval of final version of the manuscript.

Table 1 – Healthcare resources used and total cost per female patient aged over 50 in the year following hip fracture

Type of service	Standard utilization	Total cost
- Doctor visits	2 Family Physician visits 5 Orthopedic surgery visits 3 Physiatry visits 2 Rheumatology visits	€429.00
- Medical tests	2 blood tests 1 DEXA X-rays of fracture site upon fracture Check-up X-rays in each Rheumatology consultation	€184.27
- Hospitalization	Surgery	€3 076.62
- Physiotherapy	36 sessions (ideal scenario)	€2 408.40
Total per patient		€6 098.29
X Number of fractures per year		9 440
= Grand total		€57 567.858

DEXA: bone densitometry

PROTECTION OF HUMANS AND ANIMALS

The authors declare that the procedures were followed according to the regulations established by the Clinical Research and Ethics Committee and to the Helsinki Declaration of the World Medical Association updated in 2013.

DATA CONFIDENTIALITY

The authors declare having followed the protocols in use at their working center regarding patients' data publication.

COMPETING INTERESTS

AB has received consulting fees or acted as a speaker for Novartis, Abbvie, Amgen and Janssen.

JG and CM have received grants from Amgen.

AMR has received unrestricted grants from Pfizer, Novartis and Amgen, received consulting fees or acted as a speaker for Amgen.

HC has no competing interests to declare.

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