Reviewer's report

Title: Incidence and direct hospitalization costs of hip fractures in Vilnius, capital of Lithuania, in 2010

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Reviewer: Giovanni Iolascon

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- Major Compulsory Revisions

1. RESULTS - Which is the percentage of hip fractures that don’t need hospitalization? Please, recalculate the incidence considering this percentage of population or just declare to calculate only the incidence of hip fractures that need hospitalization.

2. RESULTS - Page 6, line 12: the Authors say: “308 for women, and 160 for men”. The number 308 doesn’t match the one in table 1.

3. RESULTS - Page 6, lines 19-23: the Authors say: “The most frequent type of surgical procedure used was osteosynthesis: internal fixation by plate was performed in 110 women and 47 men (33% and 44%, respectively), and internal fixation by screw was performed in 162 women and 51 men (48% and 48%, respectively). Among 59 persons who underwent hip replacement, 54 were women (16%) and 5 were men (5%).”. Usually osteosynthesis is the eligible treatment after lateral hip fractures, while arthroplasty for medial hip fractures. Please provide the number of neck hip fractures and trochanteric hip fractures.

4. RESULTS - Page 6, lines 23-25: the Authors say: “The results indicate that the overall in-hospital mortality was 2%. Among those managed conservatively, the mortality was 25%, which significantly exceeded the in-hospital mortality after surgical treatment (1%).”. Which is the overall mortality in the year 2010 including the inpatient mortality? Was the mortality rate considered when the authors calculated the mean costs?

5. RESULTS - Page 7, lines 10-12: the Authors say: “Arthroplasty was performed on all readmitted patients.” In Table 2 in the session “Readmission for the same fracture” is not clear that the 12 patients who sustained again the same fracture received arthroplasty. Please clarify.

6. RESULTS - Page 8, lines 14-15: the Authors say: “Hospital costs of hip fracture have been analyzed by age groups and gender, and the data is shown in Table 3.” Please explain why, as it is shown in Table 3, the mean cost for women aged 50-54 years is so high compared to men and older women.

7. DISCUSSION - Page 12, lines 1-4: the Authors say: “In both types of treatment, long-term care constituted a large component of overall costs (39% in fixation by screw and 41% in cases of fixation by plate), whereas long-term care accounts for only 2% of the overall cost among patients treated by arthroplasty.” It would be interesting to know the mean length of stay for acute hospital stay,
inpatient rehabilitation, and long term care hospital.

8. DISCUSSION - Page 12, lines 7-12: the Authors say: “When the overall hospital costs were considered, the estimated cost of arthroplasty was low since only 13% underwent this type of treatment. Although it is evident that acute hospital stay in case of hip replacement is the most expensive when comparing the estimated costs of the treatment types, arthroplasty did not increase the mean overall hospital costs associated with hip fracture. The mean cost (2,419.44 EUR) was lower than the cost of treatment by internal fixation by screw (2,730.30 EUR).” Could you please explain better why the overall costs of internal fixation by screw are higher than that of arthroplasty? It is well known that a prosthesis is much more expensive than a screw. Were the overall costs due to complications or longer length of stay or what else? Please clarify.

9. CONCLUSION- Page 13, lines 9-17: the Authors say: “This information on the current costs of fractures will aid clinicians, policy makers, and healthcare organizers in Lithuania to assess the importance of interventions to reduce the incidence of fractures and to minimize the associated costs.” It is not clear how the results of this paper could help to reduce the incidence of hip fractures.

- Minor Essential Revisions
  1. BACKGROUND Page 3, line 2: the Authors say: “As it was identified by systematic review,...” Which systematic review do the authors refer in the article?

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.