Author's response to reviews

Title: Risk factors of osteoporosis in healthy Moroccan men.

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Author's response to reviews: see over
To the editor in chief

*BMC Musculoskeletal Disorders*

Dear Sir,

We have dealt with all the reviewer’s comments. We hope the manuscript will interest now BMC Musculoskeletal Disorders as an original article.

Prof. Abdellah El Maghraoui
Response to reviewers:

Reviewer 1:
In this manuscript the authors explore the relationship between bone density (response variable) and several other explanatory variables in a sample of Moroccan men. The aim is to document if for Moroccan men determinants of low bone mass differ from those published for other populations. A set of putative explanatory variables was selected and evaluated in the sample population. After adequate statistical processing, three variables were found to be associated with osteoporosis: ageing, a lower body mass index, and low physical activity. The methods are appropriate and well described. The data is sound and well reported. The discussion and conclusions are well balanced and adequately supported by the data. The authors acknowledge previous work upon which they are building, and the writing is acceptable.

We thank the reviewer for his comments.

Discretionary Revisions:
An explanation for why were these putative risk factors chosen and not others such as vitamin D or gonadal status, or alternatively, if vitamin D deficiency or hypogonadism were exclusion criteria.

This study focused on clinical risk factors of osteoporosis. Biological exams were not programmed in the protocol of this study.

Minor Essential Revisions:
On page 5, last paragraph on Subjects, the numbers do not add up. 678 men screened, 186 excluded, leaves 492 men in the study instead of 592. Please review these numbers, since the whole paper reports 592 subjects in the study.

The typographical mistake was corrected.

Major Compulsory Revisions:
On Table 4, low physical activity does not show statistically significant association with osteoporosis. The conclusions state that low physical activity is associated with osteoporosis.

The conclusion was corrected: Ageing and low BMI are the main risk factors associated with osteoporosis in Moroccan men.

Reviewer 2:
Major Compulsory revisions:
1) In the methods the authors mention that they select the segment L2-L4 for spine BMD values, as "all" prevalence OP data available in the literature is based on that concrete location. That is not correct. There are many prevalence studies that show values L1-L4. See, for example:
improve prediction of vertebral fracture incidence." Bone 16(4 Suppl): 257S-262S.

“All” was changed to “most of all”.

2) Authors don’t specify anywhere in the article how they define and collect fractures. The term “traumatic fractures” should be better defined. Does it mean ANY kind of fracture due to a trauma (high impact too)? If ANY traumatic fracture is included, regardless of its osteoporotic nature, that might partly explain why there is no statistically significant relationship between fractures and OP status, as we would be including fractures not due to low BMD. It is true that, individuals with low BMD are more likely to have suffered any kind of fractures at young age. However, the sample size of this study is possibly not big enough to demonstrate such effect.

This sentence was added in the material and methods chapter: The men were also asked about history of “traumatic fractures” regardless of the importance of trauma.

Minor Essencial Revisions:
   1) Last paragraph in page 9 should be reworded.

This sentence was reworded as suggested.

2) In Discussion the sentence that says "At the lumbar spine, on the othewr hand, several studies...”. I think it should be reworded.

This sentence was reworded as suggested.

3) Maybe change one or two "moreover" for other expressions (e,g: "furthermore")

One “moreover” was changed as suggested.

Discretionary Revisions:
1) I think it would be interesting that authors discuss why they think that coffee consumption is an independent risk factor in their study. In particular because they explain that coffee has not shown previously clear evidence as an independent risk factor for low BMD, and there is no clear metabolic reason to think that coffee interferes with bone health.

We do not have any clear explanation to that finding. While ingestion of caffeine does produce an immediate increase in urinary calcium loss, this is followed by reduced renal calcium clearance, with no net effect overall. There is also a small impairment of calcium absorption by caffeine, but in the presence of adequate dietary calcium, this effect is thought not to be relevant to overall bone health.