

Author's response to reviews

Title: Osteoporosis-related life habits and knowledge about osteoporosis among women in El Salvador: A cross-sectional study

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Author's response to reviews: see over

San Salvador, July 09, 2004

Emma Parkin
Editorial Administrator
BMC Journals

Dear Ms. Parkin:

I am sending you the revised version of the manuscript entitled "Osteoporosis-related life habits and knowledge about osteoporosis among women in El Salvador: A cross-sectional study", and proper responses to comments of referees as attached pages in this file. I have made the required changes to original version of the manuscript, so I address its third version.

I would like to thank you and the referees for the time and effort spent in reviewing the manuscript. I hope you will find this version suitable for publication in the BMC Musculoskeletal Disorders. Thank you in advance.

Sincerely yours,

Dr. Roberto Hernandez-Rauda

Manuscript's title: Osteoporosis-related life habits and knowledge about osteoporosis among women in El Salvador: A cross-sectional study.

Referee 1: Dr. Seang-Mei Saw

http://www.biomedcentral.com/imedia/4762933303034544_comment.pdf

Major Compulsory Revisions

1st. *The sample size of 197 is rather small. The sample is a convenient sample and may be not representative of the general population.*

The present is an exploratory study which aimed to investigate some osteoporosis-related life habits and knowledge about osteoporosis among Salvadorean women of three age groups, since there is a lack of reliable epidemiological statistics, if any, in El Salvador.

The convenience sample we surveyed in this study may be not representative of either urban or rural women in El Salvador, but we have concluded that women with secondary or higher education have better knowledge about osteoporosis than women with lower educational level, and most of them meet 60% or less of recommended calcium intake per day depending household income among other variables. If we consider these data are obtained from urban women and the illiteracy in rural people (27%) is higher than in urban people (10%) [1], besides more rural people live below the poverty line (56%) than urban people (34%) [2]; then we think the present study shows some persisting osteoporosis risk factors such as non-healthy habits or behaviors among Salvadorean women, which may be more raised in rural women than in urban ones.

2nd. *The participation rate is unknown.*

The participation rate was high (87.5%), and it has already included at Methods section (See page 5 line 9).

3rd. *There are not obvious reasons why the age groups: 25-35 years, 36-49 years, and over 49 years were chosen.*

We properly explain why the three age groups were chosen on page 5, paragraph 2. The criterions are based on bone mass evolution as woman's life proceeds.

4th. *It is important to describe the knowledge about osteoporosis among Salvadorean women aged 25 years or more, and the relationship between osteoporosis knowledge scores and exercise or calcium intake. However, the identification of other factors related to exercise and calcium intake and their subsequent impact of osteoporosis is of minor importance. The modification of these other secondarily-related factors may not directly prevent osteoporosis.*

We describe the knowledge about osteoporosis through separated it in nine knowledge dimensions according their specific questions and corresponding scores (from 0 to 42) which ones are described at Table 1 and on page 6, paragraph 5; and page 7, paragraph 1. These questions served as a backbone for the interview and they were similar to other set used in a similar study [3].

We also describe the association between osteoporosis knowledge scores and exercise or calcium intake through correlation analysis (See page 11, paragraph 1; and page 12, paragraph 3). These analyses were statistically significant but showed a very weak association between foresaid variables, so that we concluded this knowledge often does not translate to appropriate changes in healthy life habits and it is not well internalized among interviewed Salvadorean women.

We agree with Referee's last comment, but we also think the secondarily-related factors should be exposed in the paper as it has done without raise them too much.

Specific Comments

1st. *Details on recruitment and sampling strategies should be included.*

These details were included on page 5, paragraph 1.

2nd. Describe in greater detail the development of the 8 osteoporosis knowledge questions and rationale for the knowledge score. Were the osteoporosis knowledge questions built from an existing model Eg. The Health Belief Model?

Please see answer to fourth question above.

Our osteoporosis knowledge questions were built from a model recently developed by Terrio and Auld [3].

3rd. Compare the knowledge scores in this study with osteoporosis knowledge scores in other countries.

Our osteoporosis knowledge scores were compared with scores got from two recent studies; the first was done in Taiwan and the second in the USA (See page 13, paragraph 1).

4th. Total calcium intake may also depend on other factors such as intake of other food groups, and intake of vitamins. Similarly, physical activity is multidimensional and occupation, recreational activities, other health-preventive behaviours may determine physical activity.

Multivariate analyses only showed some variables which affect to total calcium intake, therefore this intake may depends on consumption of other food groups, but we also analyzed dairy, non-dairy (= total intake - dairy intake – supplement intake), and supplemental calcium sources. In all cases, dairy products contributed on 57 to 68% of total intake in women so that it is main calcium source.

We also found most physical activity (96%) was in the course of housework, walking to work or shops, or standing at work or at home; only 4% was in the course of weight-bearing exercises. These exercises were usually done both as recreational sessions at gymnasium, park or home, and as health-preventive exercise routines.

The replies to referee's comments related to physical activity and total calcium intake were included in the text. You can see them on page 14, paragraph 2; page 15, paragraph 1; and page 16, paragraph 2, respectively.

5th. The authors could be describe in greater detail the implementation, content and effectiveness of public health education programs.

There is not any public health education program concerning osteoporosis in El Salvador, therefore we have modified the paragraphs where we mentioned an education program-like. Really, there is only some available information through short counselling sessions at physician's private clinics. Brochures and magazines about osteoporosis are delivered at shopping centers, supermarkets, physician's clinics, schools, and colleges by non governmental or commercial organizations. Further information is also available on television and articles in press (See page 13, paragraph 2).

Minor Essential Revisions

1st. Was informed consent obtained (from interviewed women) and was there approval by the Ethics Committee?

The Andres Bello University has not an Ethics Committee yet, so present research did not require any approval. Therefore, any informed consent was obtained from neither the university nor interviewed women.

2nd. What is the reliability and validity of the dietary portion of the questionnaire?

We determined the reliability of physical activity, dietary, and osteoporosis knowledge questionnaire sections, through a test/re-test procedure which was administered a week apart. Test/re-test correlations were 0.67, 0.72 and 0.59 for each foregoing sections, respectively. These data are included on page 6, paragraphs 3, 4, and 5.

3rd. Describe the mean, median, and range of age of menopause.

They are properly described at Table 2.

4th. *Discussion, page 11 line 21. Knowledge about osteoporosis may not lead to an improvement in “health lifestyle”. Only knowledge of questions d) and e) may influence preventive behaviour.*

We included the appropriate modification in text, which can see on page 14, lines 8-10.

References

1. **Indicadores Sociales**

[<http://www.minec.gob.sv/default.asp?id=20&mnu=20.html>]

2. **Indicadores de Pobreza y Hogares Múltiples**

[<http://www.minec.gob.sv/default.asp?id=79&mnu=79.html>]

3. Terrio K, Auld G: **Osteoporosis knowledge, calcium intake, and weight-bearing physical activity in three age groups of women.** *J Community Health* 2002, **27**:307-320.

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Reviewer 2: Dr. Joseph Lane

http://www.biomedcentral.com/imedia/2549680173403746_comment.pdf

Major Compulsory Revisions: None.

Minor Essential Revisions

1st. *Fluorine is not essential for osteoporosis prevention.*

It is correct. Although fluorine has a stimulatory effect on osteoblast activity and bone building, but its importance as osteoporosis prevent agent is now a questionable matter [1]; therefore, we eliminated any reference to fluorine in full-length text.

2nd. *The references for the discussion should be enhanced.*

We have enhanced the references for the discussion, from 12 to 19; so we added 7 refs to this section.

3rd. *Four references are used extensively for the first part and better articles exist that prove the authors points.*

We have use further recent references to enrich and to improve the first part of this version. We think most used references prove our view points.

4th. *Calcium intake is usually not adequate.*

Absolutely, most reviewed studies found a low calcium intake among surveyed women, regardless of age, so our study was not an exception.

5th. *How representative are the 197 urban women for largely rural women?*

The convenience sample we surveyed in this study may be not representative of either urban or rural women in El Salvador, but we have concluded that women with secondary or higher education have better knowledge about osteoporosis than women with lower educational level, and most of them meet 60% or less of recommended

calcium intake per day depending household income among other variables. If we consider these data are obtained from urban women and the illiteracy in rural people (27%) is higher than in urban people (10%) [2], besides more rural people live below the poverty line (56%) than urban people (34%) [3]; then we think the present study shows some persisting osteoporosis risk factors such as non-healthy habits or behaviors among Salvadorean women, which may be more raised in rural women than in urban ones.

Discretionary revisions: None.

References

1. Jasqui S, Man Z: **Tratamiento y prevención de la osteoporosis: terapéutica
estrogen-progestativa**. In *Curso Latinoamericano sobre Osteoporosis*. Edited by Latin American Osteoporosis Advisory Board. México: Programa Latinoamericano de Educación Médica Continuada-Aventis; 2003:5-11.
2. **Indicadores Sociales** [<http://www.minec.gob.sv/default.asp?id=20&mnu=20.html>]
3. **Indicadores de Pobreza y Hogares Múltiples**
[<http://www.minec.gob.sv/default.asp?id=79&mnu=79.html>]

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Referee 3: Dr. Richard Derman

http://www.biomedcentral.com/imedia/2099599393530926_comment.pdf

General: The greatest deficiency was the author's inability to write grammatically proper English.

The paper's full-length text has extensively been revised by an English-language specialist reviewer, so we hope this paper version is grammatically better written than former version.

Additionally, I have included the responses to your queries on the text and defined the term Dorsalgia, except for one: **Was personal history of fractures included?**

No, it was not included as a question, so we only addressed family history of osteoporosis including history of fractures.

Major Compulsory Revisions: None

Minor Essential Revisions: None