Author's response to reviews

Title: Vitamin D deficiency among Healthy Adolescents in Al Ain, United Arab Emirates

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Author's response to reviews: see over
December 17, 2012

Dear Dr Michelle Shardell

Re: MS: 1927598385744969
Vitamin D deficiency among Healthy Adolescents in Al Ain, United Arab Emirates
Shamma J Muhairi, Aaesha E Mehairi, Aysha A Khouri, Muna M Naqbi, Fatima A Maskari, Juma A Kaabi,
Ayesha S Dhaheri, Nico Nagelkerke and Syed M Shah

Please find attached the revised manuscript and find a point-by-point response to the concerns raised during the review process in this cover letter.
We are encouraged by the positive response by reviewers and we greatly appreciate the comments and this greatly improved the quality of our paper. We are very grateful for the thoughtful comments.

Editor’s Comment:

1. Copyediting:
After reading through your manuscript, we feel that the quality of written English needs to be improved before the manuscript can be considered further. We advise you to seek the assistance of a fluent English speaking colleague, or to have a professional editing service correct your language. Please ensure that particular attention is paid to the abstract.

Our Response
We got the assistance of a fluent English speaking colleague (Tom Loney) have acknowledged his help.

Editor’s Comment:
2. Please remove the authors’ qualifications (e.g. PhD / MD) or job titles from the manuscript file.

Our Response
We have removed the authors' qualification and job title in the revised manuscript.

Editor’s Comment:
3. Please place the ABSTRACT after the title page.

Our Response We placed the ABSTRACT after the title page.

Editor’s Comment:
4. Please change the title ‘Introduction’ to ‘Background’.

Our Response: We have changed Introduction to Background

Editor’s Comment:
5. Competing interests:
Manuscripts should include a ?Competing interests? section. This should be placed after the Conclusions/Abbreviations. Please consider the following questions and include a declaration of competing interests in your manuscript:

Our Response: We have added this section after conclusion in our revised manuscript.
Editor's Comment:

6. Kindly re-allocate the Tables after the References.

**Our Response:** We re-allocated the Tables after the References.

Editor's Comment:

7. Figure titles: All figures must have a figure title listed after the references in the manuscript file. The figure file should not include the title or number (e.g. Figure 1... etc.). The figures are numbered automatically in the order in which they are uploaded.

**Our Response:** We removed the title from the figure and listed it after the references.

Editor's Comment:

8. Figure cropping: It is important for the final layout of the manuscript that the figures are cropped as closely as possible to minimise white space around the image.

**Our Response:** We have done it to the best of our ability.

Editor's Comment:

Please also ensure that your revised manuscript conforms to the journal style (http://www.biomedcentral.com/bmcpublichealth/authors/instructions ). It is important that your files are correctly formatted.

**Our Response:** The revised manuscript conforms to the journal style.

We look forward to receiving your revised manuscript by 1 December 2012. If you imagine that it will take longer to prepare please give us some estimate of when we can expect it.

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**OUR RESPONSE to Comments made by Reviewer 1 (James Adams)**

**We greatly appreciate reviewer’s comments**

**Reviewer’s general Comments**

Overall, this is a very good paper, very worthy of publication

**Our Response:**

Many thanks

**Minor Essential Revisions**

1) the paper is generally well-written, but there are some typos and occasional incorrect English grammar

**Our Response:**

We got the help of one of our colleagues Dr. Tom Loney who has good command in English writing and he edited the manuscript for typos and any incorrect English grammar
Reviewer’s comment
2) In the abstract, it is unclear if the percentage with those under 20 ng/ml includes those with under 15 ng/ml; I think it would be more clear to list the percentage under 15 (deficient) and those in the range of 15-20 (insufficient)

Our Response
It is those under 20 and we have further added “Overall 65.1% of study participants were either vitamin D deficient or insufficient.”

Reviewer’s comment
3) in the abstract, clarify that the children were "healthy", since the study excluded those with chronic medical conditions. Also, add a comment about this in the discussion, as those with chronic health conditions might have worse status

Our Response
We added the word “healthy”in Abstract Background line 2.
We also added the following sentence in the 1st paragraph of discussion.
“As part of our exclusion criteria we did not include six subjects who were on treatment for diabetes or hypertension and they might had even lower concentrations of vitamin D”

Reviewer’s comment
Discretionary Revisions
If there is data on girls who did or did not follow the Niqab or Hijab clothing style that would be useful to include.

Our Response:
Unfortunately we do not have data address this question.

OUR RESPONSE to Comments made by Reviewer 2

Reviewer’s report, Reviewer: Barbara J J Boucher

Title: Vitamin D deficiency among Healthy Adolescents in Al Ain, United Arab Emirates

We greatly appreciate very thoughtful comments made by the reviewer and it greatly improved the quality of our manuscript. Our response follows to each of the comment by reviewer

Reviewer's report:
General comments.
Necessary revisions include everything mentioned apart from tjos matters that are purely grammatical.

Our Response:
We got help of one of our colleagues Dr. Tom Loney who completed a thorough editing to improve the English
**Reviewer's report:**
This study adds little new information on the basis of vitamin D status and its effects it does highlight the problem in an additional part of the world and add to knowledge on a global problem that urgently needs to be solved. The study is clearly described, the findings are clearly and simply presented and the MS is easy to follow though some points do need attention. For example, serum 25(OH)D measurements are ‘concentrations’ and this term should be used throughout rather than ‘levels’

**Our Response:**
We changed level to concentrations throughout the revised test.

**Reviewer's report:**
It is unclear whether smoking was noted in this study. If young people do smoke in the UAE this data might affect the metabolic syndrome related variables so that a comment on this would be useful.

**Our Response:** We added this comment in the result section Paragraph 2.
Only boys reported (15%) current cigarette smoking and none of the girls had history of current smoking. Given no current history of smoking in girls we did not conduct any further analysis on this.

**Reviewer's report:**
In mentioning milk and dairy intakes it would be helpful to be told how much vitamin D there is in such products in the UAE.

**Our Response:**
We added two references and the following text in the 4th paragraph of discussion: “Data is lacking if UAE milk contains enough vitamin D and studies conducted elsewhere show that fortified milk did not contain the amount of vitamin D claimed on the label [29]. In the study from Al Ain in the UAE, 40% of participants reported consuming fortified milk with a calculated daily average intake of 88 international units of vitamin D [30].

**Reviewer's report:**
It is important to state whether or not there was any seasonal variation in serum 25(OH)D in boys or girls, [more likely in males and more likely not to be found in females] as this finding would mean that associations of D status with the outcomes used would need adjustment for season of sampling.

**Our Response:**
We completed this study between March and April and study did not extend our seasons. We have added the following comment in the discussion in last paragraph before conclusion “We did not evaluate the effect of seasonality as the study was conducted during months of March and April. Given the availability of sun shine almost throughout the year the seasonality may not be an important factor. 

Specific comments.
There are some clarifications that would be useful to the reader as listed below.
Some editing of the English text would improve the presentation in general and a few examples are included in these specific comments.

Page 1. Background. In adult populations, there are few data on ....

Page 2. Methods. Line 1. This was .... Line 2. Are there 142 relevant schools in total in Al Ain; if so, say '...selected from the 142 schools.... Line 3. Outcomes measured... Results, line 2, using a cutoff level of 25(OH)D of <20 ng/ml [<50nmol/l], ...line 4, concentrations, not levels. Conclusions, ..prevalent in adolescents, and more common in girls.

Our Response:

We made all these changes in the revised text.

Reviewer's report:

INTRODUCTION Line 1-2 low serum concentrations of 25- etc '. Line 5, , insert 'especially since' before and peak bone mass? Last line, insert deficiency after vitamin D. page 3. Line 1, is it many or some? Deficiency remains a problem globally, you might like to quote Prentice A or Calvo M on that? Para 2, line 9, insert 'therefore, after the aims of this study?'

Our Response:

We made all the suggested changes and added reference paper by CalvoM

Reviewer's report:

Page 4. Did the latitude of schools vary much? If so this should be mentioned and adjusted for. Line 2 change blood 25(OH)D levels to serum 25(OH)D concentrations. Data collection Was there information on smoking which may have affected results, as above. Was there information on the use of sunscreen or was this never used, please mention this as it could have affected 25(OH)D findings.

Our Response:

We changed blood to serum and we added the following in 1st paragraph of page 4

The latitude of schools did not change in Al Ain city. We did not collect information on the use of sunscreen. We already addressed the smoking related question.

Reviewer's report:

Page 5. Blood tests -were these done within any specific time range that should be mentioned? The same query applies to measurements of height and weight since both vary with time of day. Was BP taken after a certain time after exercise or smoking [if anyone was a smoker]?

Our Response:

We made the clarification in the revised text as follows;

All measurements were performed at the same time of the day (i.e. early morning between 8 and 11 am) for all participants. Height was measured in centimeters (cm) using a stadiometer (SECA) with the participant standing in an upright position without wearing shoes. Waist circumference was measured in centimeters (cm) using an un-stretched measuring tape placed around the midpoint between the bottom of the rib cage and above the tip of the iliac crest. Body
weight was measured to the nearest 0.2 kilograms (kg) using a digital scale (SECA) with the
participant standing in an upright position without shoes and in light clothing. Triplicate readings
of height, weight and waist circumference were taken and the average was considered to be the
participant’s measurement.

Following at least five minutes of rest in a seated position, blood pressure (BP) was
measured on the right arm using a standard mercury sphygmomanometer with an appropriate
cuff size. All participants were required to refrain from smoking, consuming caffeine and
participating in any moderate- or vigorous-intensity physical activity at least 60 minutes before
their blood pressure measurement. Three consecutive measures were obtained at one-minute
intervals and the average of the last two readings was considered to be the participant's blood
pressure.

Reviewer's report:

Page 6. Line 1, ..diagnostic criteria for MetS…; Para 2, line 1, concentrations not
levels, Statistical analyses. Were all data normally distributed. If not, then such
data needs to be described by medians and analyzed using non-parametric
tests; please check and adjust this section if necessary. Line 8, concentrations
not levels.
Results. Page 7, line 5 could better start with the characteristics….. Para 2, line
1, concentration not levels, as is also needed in more places lower down; line 2,
‘using a cutoff of ….‘;

Our Response:
We made all the changes and mentioned that all data normally distributed just after
Statistical Analysis.

Reviewer's report:

Page 8, note the many places where levels should read concentrations; on the
last line you could say vitamin D status instead. At the end of the results, some
results of multiple regression analyses of the determinants of the cardiovascular
outcomes measured, saying where D status proved to be an independent
predictor, and where it did not, would be useful, especially for HDL-C, since
simple variance suggested higher D status was linked to lower HDL-C rather
than to higher HDL-C which is the more usual finding.

Our Response:
We changed levels to concentrations.
We made the following changes at the end of results Page8 “After adjustment for age, female
gender, consumption of fast food per week, and BMI were independently correlated with
decreased vitamin D level. Physical activity scores were positively correlated with vitamin D
level.”

Reviewer's report:

Discussion. Page 8. Line 2 – our school-based study ….’ line 4, than did their
male …..; line 5, are available rather than were available; Para 2, commas
needed around, particularly in females.

**Our Response:**
We made the suggested changes.

**Reviewer's report:**

Page 9. Levels not concentrations needed in several places. 2nd line, ‘...and, therefore, vitamin D deficiency remains ...’ Para 2, line 1, ‘...either require...’; line 2, the face and hands...; line 7, low vitamin D status; last line, re ‘enough milk’ - this only applies if UAE milk contains a lot of vitamin D so please review this section; third Para, line 2, ...lipids or metabolic syndrome...; line 3 and also line 8, say ‘25(OH)D concentrations’ and not ‘vitamin D’ as this wasn’t measured. Otherwise you will need to define 25(OH)D that way at the start! Last but one line, would start better as ‘Other studies have shown...’

Page 10. Para 1, Line 2, ‘... to measure serum parathyroid......... a measure of bone health, loosely associated with vitamin D status [and a relevant reference]. line 4, with its inherent limitations....

**Our Response:**
We made the suggested changes and added relevant reference in the revised text.

**Reviewer's report:**

In conclusion, this section should stand alone and provide enough detail for readers of the summary to know what was done and what was shown; thus, line 2 needs to include ‘...in females in the United Arab Emirates. You also need to say something to justify choosing food fortification and sun exposure rather than supplementation, either here or in a short Para at the end of the Discussion, since how to deal with this problem is not discussed there.

**Our Response:**
We made the following changes

In conclusion, vitamin D deficiency and insufficiency were highly prevalent in females in the United Arab Emirates. Given the potential for serious morbidity, there is a need for urgent monitoring of vitamin D deficiency and timely correction of vitamin D status in the general UAE population by instituting public health measures such as encouragement of moderate sunlight exposure that has been shown to be effective in other Arab population (35).

Tables and the Figure. ‘concentrations’ is the more correct term to use than ‘levels’.

**Our Response** We used concentrations instead of levels.

Many thanks for all the wise suggestions.

With regards

Syed M. Shah, MD, MPH, PhD
United Arab Emirates University