Author's response to reviews

Title: Nutritional status of Palestinian school adolescents and associated sociodemographic characteristics: cross sectional study in Ramallah and Hebron governorates.

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Version: 4 Date: 5 October 2009

Author's response to reviews: see over
Dear Reviewers,

We would like to thank you for your valuable comments on our manuscript. We are pleased to re-submit a revised manuscript based on your comments. We have answered all questions and responded to all clarifications needed regarding finalizing this paper. We also edited the manuscript. Please note that numbering of references has changed now due to adding new ones and deleting the undesired ones. Please note that the title of this article has been changed to (Prevalence and sociodemographic correlates of stunting, underweight, and overweight among Palestinian school adolescents (13-15 years) in two major governorates in the West Bank). Please see below:

Best Regards

Authors

Reviewer’s report

Title: Nutritional status of Palestinian school adolescents and associated sociodemographic characteristics: cross sectional study in Ramallah and Hebron governorates.

Version: 3 Date: 15 June 2009

Reviewer: Abdulbari Bener

Reviewer’s report:

Manuscript ID: PPE-2009-503 Title: 'Nutritional status of Palestinian school adolescents and associated sociodemographic characteristics: cross sectional study in Ramallah and Hebron governorates Authors; Nahed Mikki, Hanan F Abdul-Rahim, Faisal Awartani and Gerd Holmboe-Ottesen Journal: BMC Public Health Research article Subject: Review

1.Title:
It is not appropriate to use “nutritional status” while the study only assess anthropometric status. Body mass index, overweight and obesity are some keywords that can be used. Since the study has not measured sources of food and vitamin and mineral deficiency. Also please check the correct word “Cross-sectional”
As per the results the correct age group of study population is 13-15 years.
Please add adolescent aged 13-15 years in the title.
Reply: Title was changed to “Prevalence and sociodemographic correlates of
stunting, underweight, and overweight among Palestinian school adolescents (13-15 years) in two major governorates in the West Bank”. The following key words were used: body mass index, overweight, obesity, stunting, occupied Palestinian territory.

2. Abstract:
The objective of the study is not clear. The study target population should be included. Adolescents aged 13-15 years.

Reply: study target population is now included in the objective part of the abstract on page 2 and in the objective part of the background on page 4

1. 3. Introduction: The background is written well and is appropriate.

2. 4. Subject and Methods:
The methodology states that 13-16 year children were included but results only describe children from 13-15 years. It is very essential to define how the age was calculated and how age in months was converted to age in years.

We can assume that author has classified:
- 13 years 0 months to 13 years 12 months as age 13
- 14 years 0 months to 14 years 12 months as age 14
- 15 years 0 months to 15 years 12 months as age 15

Reply: We explained in the methodology on page 7 how age was calculated and converted to age groups in years.

5-Results:
Table 1. Total boys were 895 and total girls were 1047. (The discussion should include the reasons for this difference). Most of the children were aged 13 and 14 and age 15 groups was less than half for both boys and girls. Sample in age 15 years is smaller in the case of boys.

Reply: This is now discussed in the discussion part on page 12.

Table 2.
Table 3: Minor correction in table header titles, Must be corrected to title format.

“Stunning” and “Obesity”

Reply: corrections were done as advised

Table 4: Please add p-values to this table. Also it could be added as a footnote using markers or symbols similar to table 3. Also those variables which were not
significant for univariate analysis must be excluded from this table.

Reply: P-values were added as a footnote in the regression analysis table (table 4). In the new version of the tables, results of the bivariate analysis (tables 3a,3b) are presented separately by gender and by governorate. The results of the multivariate regression models (table 4) are presented separately by gender. As no interactions were found between region and the rest of the independent variables in the models, regression models were done for both regions together. Age, region (Ramallah/Hebron) and variables with p<0.05 in the bivariate analysis tables for each gender in any of the two governorates or in both of them combined were included in the multivariate regression model. This was explained in the data analysis part on page 8.

6-Discussion:
Please compare Kuwait and Saudi Arabia data with caution as it is different age groups 10-14 yrs for Kuwait and only males for Saudi Arabia.

Reply: These references were removed and replaced by more updated references. Differences in age groups were pointed out where necessary

In discussion, studies from other Arab countries like Qatar can be included which have used the IOTF criteria. Please see:
Reply: This study was included in the discussion part.

References: The authors should reduce list of cited references by 50% and use only relevant and updated references.

Reply: references were reduced by 20%

7-Conclusion: The conclusion is in the light of the relevant literature.
8-References: Some updated references can be added

Reply: updated reference were added and old ones were removed
Reviewer’s report
Title: Nutritional status of Palestinian school adolescents and associated sociodemographic characteristics: cross sectional study in Ramallah and Hebron governorates.
Version: 3 Date: 21 June 2009
Reviewer: Mohsen Maddah

Reviewer’s report:
This study described prevalence of stunting, overweight and obesity in a group of Palestinians adolescents. Data from this population is valuable since there is less information from this community. There are some points need to be addressed by the authors.

In title and in other parts of the manuscript it is not nutritional status of the population when only height and weight have been measured. The general term nutritional status includes a more comprehensive study including dietary survey and assessing micronutrient status of the population as well. So title of manuscript should be changed as “underweight and overweight among…..”

Reply: Title was changed to (Prevalence and sociodemographic correlates of stunting, underweight, and overweight among Palestinian school adolescents (13-15 years) in two major governorates in the West Bank). We also removed nutritional status from other parts of the manuscript and replaced them with the appropriate terms.

IOTF standard is not for identifying underweight adolescents. It is only used for identifying overweight and obesity. In Page 8, it says”using IOTF criteria few adolescents were found to be thin”

Reply: The term “IOTF standards for underweight” has been removed from the text and the tables as per the reviewer’s comment.

Selected socio-demographic factors should be named in the abstract.
Reply: sociodemographic factors are mentioned now in the abstract.

Data has not been adequately stratified by socioeconomic factors. First overweight/obesity and stunting should be reported by parental educational level, living area, sex, urban/rural residence and economic status then independent association of these variables with overweight/obesity can be shown in logistic regression analysis. The result is mostly focused on sex difference on the prevalence overweight and stunting.

Based on the reviews, the tables have been changed. Results now are presented separately for each governorate with the suggested stratifies.
Introduction has been not written very well. It has been said that adolescents live under condition of poverty. Then, why is this study looking for the prevalence of obesity in this
population. Rather high prevalence of iron deficiency anemia among women is not an index of bad nutritional status of the whole population. It could be helpful if the authors could give some data on the prevalence of chronic disease in adult population to indicate that Palestine is experiencing nutrition transition.

The introduction (page 3) has been re-written to elaborate on the nutrition transition in the occupied Palestinian territory and to expand on the prevalence of chronic diseases in the adult population as well as diseases of undernutrition which are in turn related to chronic diseases in later life.

I believe only social and economic variables should be included in multivariate analysis. Having puberty as the only biologic factor is misleading. This study is only looking on sociodemographic factors as the authors claimed.

Reply: Onset of puberty was included to adjust for overweight relative to maturation in early adolescence. It has been presented similarly in many other studies that were done on adolescents.

Please see:

First paragraph of result should be moved to method section. Much has been written in result section while tables gave values and significant levels.

Reply: first paragraph of the results explains the sample characteristics and the response rate. We think that it fits better in the results part so we keep it there. Discussion needs to be improved as some finding has not been discussed. For example, why girls are more prone to obesity than boys? Are boys more physically active than girls in Palestine? Is girls’ dressing style, as Muslims, making them less concerned regarding thinness? While in western societies parental education is inversely related to overweight in adolescents why is it not the case in Palestinians?

Reply: The reviewer raises important points that we have tried to incorporate in the discussion. Specifically:

- We have discussed the lower levels of physical activity of girls as well as the cultural restrictions on their mobility, which may be a possible explanation for their overweight in page 13.
- Muslim dress is not as common in Palestine as in other Arab and Islamic countries, especially at this young age. Therefore, we did not raise this
point in the discussion
- In our study, the results of overweight with regard to education did not show a clear pattern and were not statistically significant, so they were not discussed. Furthermore, education means different things in different contexts, so the deviation for the western pattern, if any, is not unexpected.
Reviewer’s report

Title: Nutritional status of Palestinian school adolescents and associated sociodemographic characteristics: cross sectional study in Ramallah and Hebron governorates.

Version: 3 Date: 29 June 2009

Reviewer: Bernard Maire

Reviewer’s report:

-Major Compulsory Revisions

1) It is written in the Background part of the Abstract that “Population based studies measuring nutritional status of adolescents in the West Bank do not exist.” However a quick look at Medline shows that at least two papers have been published dealing with the nutritional status of Palestinian adolescents, including those of the West Bank, which were based on representative samples (Al Sabbah et al., J Hum Nutr Diet 2008; Al Sabbah et al. Int J Eat Disord 2009). These authors report results of a survey done in 2003/4 while the paper submitted here refers to a survey done in 2005. If the last one of these 2 published articles was probably not yet published when this paper was submitted, the first one was certainly already known. As a matter of fact, it is mentioned in the Background (Introduction) section of the paper, coming into partial contradiction with the statement written immediately before.

In any case, from now on, they cannot be ignored and should be mentioned, and the background presentation of the Abstract should be changed accordingly. Furthermore these articles deal also with sociodemographic characteristics of these children.

Reply: Indeed the authors are aware of the studies, and as the reviewer pointed out, have referenced them in the present article. However, the differences between the previous studies and ours (which the reviewer explains in his next comment) were not sufficiently explained in the previous manuscript. We have now re-written the Background and Abstract sections to reflect these differences.

Then the exact interest of the newly submitted article needs to be more precisely justified. I believe that the interest of this paper relies on the full description of the nutritional status of the adolescents, including stunting and underweight (and not just overweight and obesity as in the previously mentioned papers). But also, it relies on measured anthropometry while the above cited papers used declared measures of weight and height, with 27.5% missing data for BMI in final. This is important, as the prevalences found differ somewhat (with an inversion for instance of the ratio of overweight for boys vs. girls), as well as the relationships with sociodemographic characteristics. This should probably be better emphasized.

Reply: the objective of the paper was modified according to the changes suggested above. Measured anthropometry was better emphasized in the different parts of the paper. We elaborated in the discussion part on the
differences between the results in our study and the Palestinian HBSC as per reviewer’s suggestion.
2) The authors chose to limit their logistic analyses to the relationship between overweight/obesity and sociodemographic variables; if they would do this kind of analyses for stunting and underweight, at least for boys as it appears rather prevalent for them, it would strengthen the interest of the paper.

Reply: logistic regression analysis models were performed for stunting as well and were presented in the tables and the text. As for underweight, the results of the multivariate regression analysis were presented in the text only to avoid the tables being too cluttered.
3) But beyond this, what is the exact aim of the paper: to present contrasted results from two different areas having acquired a different level of demographical, economic and epidemiological transition ? (as suggested briefly in the ‘Study Design and Population’ part of the Methods section)
Or is the aim to consider in some kind the two areas globally as rather representative of the situation in the WB and to discuss it as such, comparing with other situations, as is done in the discussion part ? Or both ? (but the sample is not representative of the West Bank, only of two Governorates (among 11). Why these governorates? Why only two ? For those readers who are not familiar with Palestine, this should be better explained.

This is indeed a very important comment, and we believe that the changes we have made to the manuscript reflect the objective more clearly. The objective of this article was to assess the prevalence of stunting, underweight, overweight, and obesity using actual measured weights and heights among school-based adolescents (13-15 years) in 2 major governorates (Ramallah and Hebron) in the West Bank in the oPt. It also aimed to study the associations between these anthropometric measurements and selected sociodemographic characteristics such as residential factors (region, urban-rural), age, gender, educational level of the parents, aspects of household economic situation, and food availability.
With regard to the choice of the two governorates, the rationale was expanded on in the Background on page 4.
Tables and results parts were modified accordingly. In the discussion part we compared with other studies with caution because our sample was not a representative sample, this was emphasized both in the discussion and in the limitations part.

Some ambiguity remains in the paper as sometimes results are taken together and discussed globally, sometimes they are presented and discussed separately, as if they were solely representative of each of the surveyed areas. This should be better structured.

Reply: The tables and the results parts were modified to be consistent with the objective of the paper. The results are presented separately for each governorate in the tables and in the different parts of the table.

-Minor Essential Revisions
1) In the ‘Study Design and Population’ part of the Methods section, it is written “In a comparison of demographic … ; Ramallah and Hebron cities represented two
distinctive modes ...higher standard of living” (end of paragraph): there are obviously major differences between the two cities, but according to what is mentioned elsewhere, there are also major differences between the two rural areas, the nature of which should be presented as well in this part (and the ‘;’ before Ramallah should be changed).

Reply: we presented the differences between the rural areas as well in page 4.

2) Table 2 gives only separate results for Ramallah and Hebron, but Table 3 gives results for the Total. Either it has no sense to give results for the Total, but only by surveyed regions, and then it should not be given and commented as such in text (either in the Results or the Discussion part), or it makes sense – see above, comment 3 -(for reasons of representativeness of the rest of WB ? -For global comparison between B and G, -between rural and urban, -or else ?) and then it should be presented already in Table 2 in a first series of columns (total, B, G, p) ? It should even be the only results in Table 2, avoiding systematic repetition of more than 15 data between Tables 2 and 3.

Reply: tables 2, 3 and 4 were modified to be consistent with the objective of the paper. In Table 2 we presented total, boys and girls for each governorate. The bivariate regression analysis tables were presented separately by governorate and within each governorate results were presented separately by sex then by sociodemographic characteristics. In the new tables, there is no repetition in the presented data.

3) CI should be given for prevalence in each main category (stunting, overweight, etc.), either in text or (better) in Tables to allow further comparisons with other data sets.

Reply: CI were presented in the tables as advised.

-Discretionary Revisions

1) Perhaps instead of “… Ramallah and Hebron governorates” the title could be modified in “ … two major West Bank governorates” ?

Reply: title has been changed to (Prevalence and sociodemographic correlates of stunting, underweight, and overweight among Palestinian school adolescents (13-15 years) in two major governorates in the West Bank)

2) Background: you can now cite Hussaini et al. (Lancet March 21 2009 ;373:1041-9) for the epidemiologic transition in the Occupied Palestinian Territory.

Reply: this reference was cited in the background part on page 3.

3) How much % of adolescents are going to school at these ages ?

Reply: this information was added in the study sample part on page 5.

4) Results: Are stunted children predominantly underweight, normal or overweight ?

Reply: the results were presented in the results part on page 10. Of the stunted adolescents, 20.8% were underweight , 70.7% had normal weight and 8.0% were overweight/obese

5) Tables: ‘Sample and population size weighted results’ should be added to the
legends.
Reply: ‘Sample and population size weighted results’ was added to the legends.

6) Discussion: There is a higher prevalence of overweight/obesity in girls compared to boys and a similar example from Brazil is cited, but more regional references could be cited and discussed as probably more specific cultural and societal factors are at play in the region (and some are already suggested here)?
Reply: this reference from Brazil was removed and replaced by regional references.
7) In the ‘limitations’ section, actual measurement of weight and height should be presented among the strengths of the study.

Reply: actual measurement of weights and heights was emphasized as one of the strengths of the study in the limitation part on page 16 and also where appropriate in the discussion part.
Reviewer's report

Title: Nutritional status of Palestinian school adolescents and associated sociodemographic characteristics: cross sectional study in Ramallah and Hebron governorates.

Version: 3 Date: 7 July 2009

Reviewer: Guansheng Ma

Reviewer's report:

Page 1. Title: need to be rewritten. The nutritional status of students in Ramallah and Hebron governorates of Palest in.

Reply: title has been changed as suggested by the other reviewers to (Prevalence and sociodemographic correlates of stunting, underweight, and overweight among Palestinian school adolescents (13-15 years) in two major governorates in the West Bank).

Page 2. The purpose of this study is not clear. wether it is to describe the nutritional status of students in Plaestine (representative?)? or that in in the two governorates and make the comparison at the same time. This should be consistent with the results part.

Reply: the purpose of the study was clarified, the purpose is to assess the prevalence of stunting, underweight, overweight, and obesity using actual measured weights and heights among school-based adolescents (13-15 years) in 2 major governorates (Ramallah and Hebron) in the West Bank in the oPt. It also aimed to study the associations between these anthropometric measurements and selected sociodemographic characteristics such as residential factors (region, urban-rural), age, gender, educational level of the parents, aspects of household economic situation, and food availability. We clarified this objective in the abstract and in the background. We clarified that the data reflects the anthropometric measures in these 2 governorates. Tables, results and discussion parts were modified accordingly.

Page 2. line 2-3. delete "... and the associations.....characteristics."

Reply: We think that associations with sociodemographic characteristics are a very important part of the paper so we kept it in the title and in the objective of the paper.

Page 2. "%" should be added for the figures in the results parts.
Reply: we added % to the figures in the results part

Page 3. Background information is not strong enough to support the purpose of the study.

Reply: background information was modified to support the purpose of the study on page 3 of the manuscript. The study was needed because:
1. Adolescents in Palestine are about one quarter of the population.
2. There is dearth of information on adolescents in the West Bank. No studies using measured weights and heights were conducted in the West Bank part of Palestine.
3. There is evidence of nutrition transition and high prevalence of chronic diseases in adulthood. At the same time, diseases of undernutrition still exist.

Page3-4. Study design and population. Move the information on Ramallah and Hebron to Background part.

Reply: Information on Ramallah and Hebron has now been included in the background part on page 4.
Page 4. Study sample The information on the calculation of sample size should be provided.

Reply: the information on the calculation of sample size has now been included in the study sample section on page 5 of the revised manuscript

Page 5. line1-2. please specify the economic situation.

Reply: economic situation has been specified in data collection part on page 6.
Page 5. Measures. Please describe in detail how the weight and height measured, by whom, how many times, and quality control, wether in fasting status?

Reply: Detailed description of how the weight and height were taken was provided in the description of the anthropometric measures on page 6.
Page 6. Onset of puberty is too simple to assess the reach of puberty. Please discuss this in discussion part.

Reply: This was discussed in the discussion part on page 15.
Page 7-9. The results part should be consistent with the purpose of this study. wether it is to focus on the description of the nutritional status of students in the two governorates and comparison or describe that as resprentative sample for the Palestine? The tables should be revised accordingly.

Reply: the tables and the results parts of the paper were modified to be consistent with the purpose of the study which is to focus on the description of the nutritional status in these 2 governorates rather than considering the sample
as a representative sample.

Page 9-11. Information on the comparison with other studies should be provided.

Reply: This information was provided.