Author's response to reviews

Title: Acculturation and Obesity among Migrant Populations in High Income Countries - a Systematic Review

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Author's response to reviews: see over
RESPONSES TO REVIEWERS

Formatting changes

1. Please adhere to PRISMA guidelines (http://www.prisma-statement.org/) for reporting systematic reviews.

The review format has been adjusted according to PRISMA guidelines.

2. Authors’ Contributions: Please check the instructions for authors on the journal website for the correct format to use for Authors' Contributions.

The Authors’ Contributions section has been adjusted according to the BMC Public Health instructions.

3. We strongly encourage you to include an Acknowledgments section between the Authors? contributions section and Reference list. Please acknowledge anyone who contributed towards the study by making substantial contributions to conception, design, acquisition of data, or analysis and interpretation of data, or who was involved in drafting the manuscript or revising it critically for important intellectual content, but who does not meet the criteria for authorship. Please also include their source(s) of funding. Please also acknowledge anyone who contributed materials essential for the study. Authors should obtain permission to acknowledge from all those mentioned in the Acknowledgments.

Please list the source(s) of funding for the study, for each author, and for the manuscript preparation in the acknowledgments section. Authors must describe the role of the funding body, if any, in study design; in the collection, analysis, and interpretation of data; in the writing of the manuscript; and in the decision to submit the manuscript for publication.

An Acknowledgements section has been added to the manuscript.

4. 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. For more information, see the instructions for authors: http://www.biomedcentral.com/info/ifora/figures.

Figure titles have been added after the References in the manuscript.

5. 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. For more information, see the instructions for authors: http://www.biomedcentral.com/info/ifora/figures.

Figure layout has been cropped to minimize white space around the image.
6. Tables as additional files: We notice that you have included tables as additional files. If you want the tables to be visible within the final published manuscript please include them in the manuscript in a tables section following the references. Alternatively, please cite the files as Additional file 1 etc., and include an additional files section in the manuscript.

Tables to be included in the final published manuscript have been added in a section after the References.

Reviewer's report

Title: Acculturation and Obesity among Migrant Populations in High Income Countries - a Systematic Review

Version: 2 Date: 9 March 2013

Reviewer: Kelly Balistreri

Reviewer's report:

This review describes the use of validated acculturation scales in research on migrant obesity. This review fills a small niche to the current review of adult obesity and migration status.

Minor Compulsory Revisions

• 1. The title of the manuscript suggests that this is a review of all high income countries when it is actually a review of studies taking place in the US. It is a review of the use of acculturation scales in migrant/obesity in the US.

We thank the reviewer for this comment. However, the purpose was to cover all income countries as illustrated by our search strategy. The main focus of our paper was for those studies that used validated acculturation scales (as we excluded those that used surrogate measure of acculturation). Unfortunately most of the literature on acculturation comes from the USA, and those conducted in other developed countries fell short of meeting our inclusion criteria, hence the over-representation of USA studies in our paper. This represents a limitation of our findings as they cannot be generalized across all industrialized countries. This has been noted as in the discussion section.
• 2. There is an abundant literature on the healthy migrant effect with respect to obesity. I do understand that the focus of the review is to include only those studies that use an actual acculturation scale rather than a proxy such as language use or duration of residence. However, it may help the manuscript if the authors were to suggest what is missing from the current literature that may be addressed using the scales? What inconsistencies in the literature are addressed by using the scales? It would be helpful to focus more on the strength of the current paper and how it stands out from prior obesity reviews.

This is a very good point and we thank the reviewer for this. We have added a paragraph (highlighted) to the Strengths and Limitations section which reads:

“A strength of this review relates to the chief goal of the paper which was to identify and review the research which has used valid and comparable acculturation scales to measure the relationship between acculturation and obesity in migrants to high-income countries. While only nine studies met the inclusion criteria for this paper, the fact that all of the reviewed research employed acculturation scales in their methodology effectively facilitated comparison and synthesis of the main themes and variations emanating from this research. This has not been done before and has thus far represented a gap in the literature on this topic. Nonetheless, although the studies included in our review used validated acculturation scales they varied in terms of number of items and domains covered. For example, some studies [48, 49, 51, 54, 56] included one dimension that focused on language acculturation rather than a broader array of behaviours related to the migration and settlement process. Others included questions regarding language use and preference, social connections, and overall eating patterns [52], while others still focused on functional integration (i.e. adoption of the values, attitudes, and behavior of the host society) [50], structural acculturation [53], and language, identity, and behaviour [55]. In addition, when examining the relationship between acculturation and obesity, some studies used self-reported BMI measures whereas other used measured BMI, making it difficult to draw conclusions across studies. Thus, the variation in acculturation domains and measurement identified in this review emphasises the urgent need for a standardized international acculturation scale.”

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:
I declare that I have no competing interests.
Reviewer's report

Title: Acculturation and Obesity among Migrant Populations in High Income Countries - a Systematic Review

Version: 2 Date: 14 March 2013

Reviewer: Henriëtte Dijkshoorn

Discretionary Revisions

Could the authors address the role of gender in the final part of the paper; how to address the differences in the relationship of acculturation and obesity between migrant men and women in the prevention of obesity

This is a valid point, and the third paragraph (highlighted) of the Conclusion and Future Directions section has been adjusted for greater clarity. This section now reads:

“The degree of acculturation seems to reflect the degree of nutrition transition towards a more obesogenic diet and higher BMI. However, there appear also to be some countervailing forces with acculturation that precipitate a more complex pattern for women. There was some evidence of higher physical activity levels among women, and we suggest that leaner body image ideals and variable SES in high-income countries may explain the mixed findings for the relationship between acculturation and female BMI. Future research should help further unpack this interchange of culture, migration, gender and SES on the development of obesity. Identifying underlying contributors of diet, physical activity and body size perceptions will also be important for this understanding and for informing potential interventions to prevent unhealthy weight gain.”

The first key messages needs clarification; could the authors add a remark on the direction of the relationship between acculturation and obesity?

This has been adjusted according to the reviewer’s comments, and the first of the Key Messages now indicates the direction of the relationship between acculturation and obesity.

Minor Essential Revisions

The methods are well described, except for the comparability of the acculturation scales used. I missed a description of the construction of the acculturation
scales; are they valid, which items were included in the scales, are they comparable.

This is a good point. A sub-section (highlighted) has been added to the Results section to clarify this point. The section reads:

“The acculturation scales used in the reviewed studies are presented in Table 2. The scales were valid and reliable, and all comprised items gauging degree of acculturation/enculturation by typically focusing on language use, use of media in host country, ethnic social relations, social networks, lifestyle, values and/or attitudes. The studies employed both UDM and BDM scales, making it difficult to compare specific results across these studies using a common metric. However, the standardization, validity and reliability of the scales used, ultimately facilitated comparability and synthesis of the results obtained with each type of scale.”

Further, the relative difficulty of comparing different types of scales is noted in the Strengths and Limitations section as indicated in the previous Reviewer’s Report.

A description lacked on the effect of the use of self-reported BMI on the results of the review. Both papers on self-reported and measured BMI were included.

This has been addressed by including two sentences (highlighted) at the end of the Strengths and Limitations section. This reads:

“Finally, the review included studies which used both measured and self-reported BMI (Barcenas et al., 2007; Lee et al., 2000). This comprises a limitation as the accuracy of self-reported BMIs may be questionable.”

Why did the authors choose to limit the study to migrants and or refugees who lived in the host country for 15 years or less? Why did not they include migrants who lived in the host country longer than 15 years?

This criterion was not relevant in the literature search, and was included by mistake. This has been deleted from the paper.

Could the authors add a remark which makes clear the role of SES in each of the nine studies?

A single paragraph (highlighted) has been added at the end of the Study findings sub-section of the Results section. It reads:

“Five of the nine studies included measurement of SES (Bertera et al., 2003; Fitzgerald et al., 2006; Hazuda et al., 1991; Khan et al., 1997; Lee et al., 2000). Three found no significant correlations between SES and obesity (Bertera et al., 2003; Khan et al., 1997;
Lee et al., 2000), while Fitzgerald et al. (2006) established an inverse correlation between these two variables, and Hazuda et al. (1991) found both positive and negative correlations for men and women, respectively.”

**Major Compulsory Revisions:** none

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

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