Author's response to reviews

Title: Health Inequity in Access to Bariatric Surgery: A protocol for a Systematic Review

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Systematic Review
c/o BioMed Central
236 Gray's Inn Road
London WC1X 8HB
United Kingdom

Dear Alexander Tsertsvadze,

Thank you for the opportunity to improve upon our article, “Health Inequity in Access to Bariatric Surgery: A protocol for a Systematic Review.” We appreciate and thank you for your time and effort in reviewing our manuscript. We found your comments to be very helpful in strengthening our paper.

Please find attached a point-by-point response to your comments. In addition to addressing your comments, we have also edited the background section for readability. As a result of meeting the reviewer’s concerns, the word count for the abstract and manuscript (excluding references) is 267 and 1726 words, respectively. A copy of the revised manuscript with track changes is attached (Health Inequity and Bariatric Surgery_Track Changes). We also attach a clean copy of the revised manuscript (Health Inequity and Bariatric Surgery_Clean).

Please let us know if you require anything else. We look forward to a positive reply.

Warm Regards,

Tim Jackson
Response to Editor

1. Please include your PROSPERO registration number at the end of your abstract.

   The PROSPERO registration number has been added to the end of the Abstract.

Response to reviewer

1. Will the author specify the population of interest geographically speaking? Will their review be limited to the North American population only or beyond? This will bear on the extent of applicability of the review findings.

   This review will not be limited to the North American population alone. Studies will be selected irrespective of the location of study. We have included this clarification under the subsection ‘Types of study’.

2. ‘Data synthesis’ section needs more detail/clarity on statistical techniques as well as how summary effect measures of differences between the compared population (operated vs. not operated) in the characteristics of interest (e.g. sociodemographic, ethnicity, occupational, sex, religion, education, SES, health insurance, etc…) Some of these outcomes may be continuous, dichotomous of categorical (nominal, ordinal).

   ‘Data synthesis’ section has been reorganized to provide better clarity and detail. The section has been changed to include the main heading ‘Statistical Analysis’ and includes two subgroups: (1) ‘Data synthesis; and (2) ‘Investigation of heterogeneity and subgroup analysis.’

   The summary effects measures have been operationalized in the subsection ‘Types of outcome measures’. As described under the sub-heading ‘Data synthesis’, The proportion of study participants categorized within each PROGRESS-PLUS category will be summarized as a percentage with a corresponding 95% confidence interval (CI) for categorical variables, and as median and inter-quartile range (IQR) for continuous variables.

3. For ‘Data synthesis’ section, in which cases the authors will consider pooling the data. What type of pooled effect measures will be considered for dichotomous outcomes and continuous outcomes (e.g. weighted mean difference, standardized mean difference)

   How data will be pooled has been detailed under the section ‘Data analysis’. Briefly, Multivariate logistic regression will be used to explore the PROGRESS-PLUS factors associated with the receipt of bariatric surgery.
4. Will the authors plan to identify if there is any heterogeneity? In case of heterogeneity, will the authors plan to investigate any sub-group effects, if data permits. If yes, 
(subgroup analysis, regression)

The subheading ‘Investigation of heterogeneity and subgroup analysis’ has been added to detail how we plan on identifying heterogeneity. The DerSimonian and Laird method will be used to test heterogeneity of effect sizes between studies. Heterogeneity will be assumed at P < 0.05 and $I^2 \geq 25\%$. Irrespective of the presence or absence of heterogeneity, the following subgroup analyses on the main outcome will be performed to explore possible effect modifications on factors identified a priori.

5. In the Discussion section, will the authors provide an example of future research which will be informed by the findings of this review (e.g., finding suggesting inequities in access to bariatric surgery)?

The discussion section has been expanded to provide an example of future research which will be informed by the findings of this review. Findings from this review that suggests inequities in access to bariatric surgery will be used to inform the design of qualitative research to provide insight into what drives the identified factors to act as barriers to access to bariatric surgery and to help prioritize solutions to bridge the gap to access to surgical in the management of obesity.