Author's response to reviews

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

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Author's response to reviews: see over
Dear Alexander Tsersitadze,

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

Please find attached a point-by-point response to your comments, with ‘Q” referring to reviewer’s query and “R” as author’s response. As a result of meeting the reviewer’s concerns, the word count for the manuscript (excluding references) is 1814 words. A copy of the revised manuscript with track changes is attached (Health Inequity and Bariatric Surgery_Track ChangeR2). We also attach a clean copy of the revised manuscript (Health Inequity and Bariatric Surgery_CleanR2).

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

Warm Regards,

Tim Jackson
Response to reviewer

Comment #1

Q1.1: Please delete ‘data collection and analysis’ heading

**R1.2:** The heading ‘data collection and analysis’ has been removed from the manuscript.

Q1.2: Change the order and titles of headings as follows: ‘study selection’, ‘data extraction’, ‘quality assessment’, ‘data synthesis and analysis’.

**R1.2:** The order and titles of the headings have been changed as instructed.

Q1.3: Move ‘comorbidity’ paragraph to data extraction section.

**R1.3:** The ‘comorbidity’ paragraph has been moved to the end of the data extraction section.

Comment #2

Q2: The authors are suggested to consider the following (or any similar to this) re-organization of ‘Data analysis and synthesis section’. If they agree, please revise the section accordingly:

Health inequities to access bariatric surgery will be explored through the two following ways: If data permits, we will run a meta-regression (based on multivariable logistic regression model) using study-level data. In this regression, the utilization of bariatric surgery (yes/no) will be the main outcome (response/dependent variable) and PROGRESS-Plus factors would serve as explanatory (independent) covariates. This analysis will allow us to assess the impact of any individual covariate on utilization rate of surgery as well as potential effect modifiers. Moreover, we will explore differences in PROGRESS-Plus factors between the surgery vs. no surgery groups within individual studies. 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 dichotomous and categorical variables, and as median and inter-quartile range (IQR) for continuous variables. Differences in PROGRESS-PLUS factors between the groups will be compared using #2 test or Fisher’s exact test for categorical variables and the Wilcoxon-Mann-Whitney test for continuous variables. Statistical tests will be carried out as 2-tailed, tests at =0.05. If there is no heterogeneity, these differences will be pooled across studies. The random effects model by DerSimonian and Laird will be used to test heterogeneity of effect sizes between studies. Heterogeneity will be assumed at P < 0.05 and I2 > 25%. Data will be analyzed with SAS (version 9.1; SAS Institute Inc. Cary, NS).

**R2:** The section Data analysis and synthesis section was reorganized as suggested and now reads:

Health inequities to access bariatric surgery will be explored using two of the following methods: First, data permitting, meta-regression via a multivariate logistic regression using
study level data will be used to explore the PROGRESS-PLUS factors associated with the utilization of bariatric surgery (yes/no). This analysis will allow for the assessment of the impact of any individual covariates on utilization rates, as well as potential effect modifier. In addition, differences in PROGRESS-PLUS factors between the surgery and no surgery group within individual studies will be explored. 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 dichotomous and categorical variables, and as median and inter-quartile range (IQR) for continuous variables. Second, differences in PROGRESS-PLUS factors between groups will be compared using χ² test or Fisher’s exact test for categorical variables and the Wilcoxon-Mann-Whitney test for continuous variables. Statistical tests will be carried out as 2-tailed, tests at \( \alpha = 0.05 \). 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 \( I^2 \geq 25\% \). Data will be analyzed with SAS (version 9.1; SAS Institute Inc. Cary, NS).