Author's response to reviews

**Title:** Polyethylene glycol vs. sodium phosphate for bowel preparation: A treatment arm meta-analysis of randomized controlled trials

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**Author's response to reviews:** see over
Subject: REVISE DECISION: MS: 1738036291402571

Editor, BMC series Journals

Dear Editor:

On behalf of my co-authors, I submit the revised manuscript MS: 1738036291402571 entitled, Polyethylene glycol vs. sodium phosphate for bowel preparation: A treatment arm meta-analysis of randomized controlled trials.

We have revised the manuscript according to the comments of the reviewer. As instructed, we have copied the Reviewers’ comments below prior to our response to each comment.

Thank you for your and the reviewers’ thoughtful comments, and for re-considering our manuscript.

Sincerely

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REVIEWERS' COMMENTS TO AUTHOR:

1. This is a well-written and important contribution that confirms previous studies showing that a sodium phosphate hyperosmotic preparation is superior to polyethylene glycol-based lavage solutions prior to colonoscopy. However, I would point out that the definition of what constitutes an "excellent" prep quality was not a component of the publication selection criteria. In other words, there is no mention of how prep efficacy was assessed. Most studies use some sort of scoring systems but some of these approaches are rather subjective and, therefore, quite unreliable.

We agree with the reviewer that prep quality was not a component of the publication selection criteria (page 5, paragraph 1, sentence 7). However, we clearly describe how prep efficacy was assessed (page 8, paragraph 1, sentence 7).

The reviewer points out that the scoring systems for rating prep quality are subjective “and therefore, rather unreliable.” While the ratings may be considered subjective, there is no reason that they would be differentially subjective (i.e., result in more or less subjectivity in either treatment arm of NaP or PEG), particularly when the endoscopist is blinded to which prep was used. So, while the subjectivity of the rating process may introduce a degree of imprecision, it is not likely to differ between NaP and PEG groups. Finally, in a study by Rostom et al [1], the Aronchick scale had a kappa ICC statistic of 0.77, which indicates very good agreement (with excellent agreement considered to be 0.80 or higher). We have not modified the manuscript regarding this point because we believe it adds unnecessary complexity and detail that would lengthen the manuscript without improving its clarity.

2. "Failure to complete" a preparation may indicate very little of the material was consumed or, alternatively, could mean that most was ingested, just not 100%. The reviewer is aware that a meta-analysis probably cannot capture these subtleties but I believe it would nevertheless be worth commenting on these issues in the paper.

The reasoning in the previous response also applies to compliance. We agree with the reviewer that "failure to complete" a preparation can mean a wide range of consumption as
a function of total volume. However, there is no reason to think a priori that patients receiving NaP versus PEG would describe the extent of compliance differently. We do discuss the variation in definition of patient tolerance of / compliance with the prep as a limitation (page 13, paragraph 2).

3. Editorial comments:

Competing interest: These are now included on page 15 of the manuscripts

Acknowledgments: These are now included on page 15 of the manuscripts

Author’s contributions: These are now included on page 15 of the manuscripts

Reference: