Author’s response to reviews

Title: Tobacco smoking and semen quality in infertile males: A systematic review and meta-analysis

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POINT TO POINT RESPONSE TO REVIEWERS

Birute Zilaitiene, M.D., Ph.D. (Reviewer 1):

Novelty section. The statements as "health of sperms in infertile males" is not used in reproductive medicine, as there is no any special laboratory parameter assessing "sperm health". The other statement "very interesting topic based on a broad readership" is also not scientifically supported in any way.

Author response: Thank you. Appropriate changes have been made to the revised version.

Birute Zilaitiene, M.D., Ph.D. (Reviewer 1):

Conclusions should be corrected. The statement "Smoking did have a major impact on the low quantity of sperms" does not reflect the relationships evaluated. May be, there are associations between smoking and sperm concentration (or sperm count), smoking men had worse sperm morphology etc.. Nobody assessed sperm concentration and the other parameters before smoking and after some time of smoking to evaluate "impact". Otherwise the conclusions are OK.
Author response: Thank you. Minor changes have been made to the conclusion to match the reviewer’s suggestion.

Birute Zilaitiene, M.D., Ph.D. (Reviewer 1):

The terminology regarding semen alterations in used in the text is inappropriate. Please find citation from the WHO laboratory manual for the examination and processing of human semen, 2010 (page 266).

"The suffix "spermia" refers to the ejaculate and "zoospermia" to the spermatozoa. Thus, the following terms should not be used: asthenospermia, asthenoteratospermia, cryptospermia, oligoasthenospermia, oligoteratospermia, oligospermia, teratospermia"

There is a clear mistake in the use of terms "aspermia" and "azoospermia". This is a different pathology! In the text aspermia is used, tables and figures contains data on azoospermia. Please correct adequately.

Author response: Thank you. The term which we wanted to use is ‘azoospermia’. So we have changed aspermia to azoospermia. The suggested corrections were made appropriately: the suffix ‘spermia’ was replaced by ‘zoospermia’ throughout.

Reviewer 2:

The authors reviewed the current literature on possible impact of smoking on male fertility and reported a significant higher relative risk for low sperm concentration and abnormal sperm morphology among smokers. This is an interesting topic for a broad audience. The manuscript is well-written although few grammatical and syntax errors need to be corrected.

Author response: Thank you very much for your encouraging comments.

Reviewer 2:

1- The background section needs more details on the current knowledge about the research question and the rationale for this meta-analysis. Currently, it is mostly repeating the Abstract.

Author response: Thank you. We have further improve the background. Hope this revised background will be appreciated.

Reviewer 2:
2- The authors need to mention the differences between this analysis and the other recent meta-analysis (PMID: 27113031) in Discussion. It would be important for the readers to understand how the inclusion criteria in the current study is designed differently and if any new research articles on this topic are covered here but not in the 2016 report.

Author response: Thank you. We have discussed briefly the difference between this analysis and the previously published one appropriately.

Reviewer 2:

3- Considering the valuable information that is available from animal models on sperm morphology and concentration, it would be important for the authors to discuss possible mechanisms through which smoking may affect these parameters in the sperm. This would help other researchers perform follow up studies and elaborate more on the possible mechanisms.

Author response: Thank you. An additional paragraph was added in the discussion section to show the mechanisms by which, smoking might affect sperm.

Technical Comments:

>> Please remove the list of abbreviations from the Declaration section. Move this to after the Conclusion section.

Author response: Thank you. Appropriate changes