Reviewer's report

Title: Hysterosalpingosonography for diagnosing tubal occlusion in subfertile women: a systematic review protocol

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Reviewer: Ahmed Abou-Setta

Reviewer's report:

Maheux-Lacroix et al have prepared a protocol for a diagnostic accuracy review to evaluate the comparative diagnostic accuracy of hysterosalpingosonography to laparoscopy with chromotubation (gold standard) in detecting fallopian tubal occlusion in infertile women.

Major Compulsory Revisions

In general, please make sure all your tenses are future, rather than past.

Abstract:

* In the background, the authors compare hysterosalpingosonography and hysterosalpingography while in fact they should be comparing hysterosalpingosonography with laparoscopy with chromotubation (gold standard).

* In the methods, please describe the software packages that will be used, and spell out QUADAS and ROC.

* From the methods, it is not clear what the outcomes of interest are. For example, tubal occlusion diagnosed per woman or per tube (taking in mind the unit of analysis error due to the normal female anatomy... 2 tubes per woman and so the tubes are not independent of each other but rather a cluster)?

* The Discussion is not completely accurate based on the proposed methodology. The authors reported that “this systematic review will help to determine if sono-HSG is an adequate alternative screening test for diagnosing tubal occlusion”. In actuality, your target population (infertile women) limits you from making such a general claim. Therefore, you need to attach a few more words to the end of that statement to read, “this systematic review will help to determine if sono-HSG is an adequate alternative screening test for diagnosing tubal occlusion in infertile women” or loosen up the inclusion criteria to include all women.

Introduction:

* Please move the primary and secondary outcomes to the methods section.

Methods:

* Search strategy – It is not clear why would search the mentioned databases “up to a maximum of 3 months before publication”. Do you mean publication of your review or publication of the specific database? Please clarify.
* Eligibility criteria – the rationale for limiting to only infertile women in not clear. Why should trials in fertile women be excluded? I do not see the rationale explained, but I might have missed it. This may limit the number of included studies and create a potential selection bias.

* I am confused by how the authors anticipate to exclude but still include studies “based on other modalities, such as HSG, hysteroscopic selective tubal cannulation under fluoroscopic guidance or vaginal laparoscopy”. At first, the authors state these studies will be excluded, then they state that studies “using HSG as a comparator test, data on the diagnostic accuracy of HSG will be retained in order to make a direct comparison between sono-HSG and HSG”. Therefore, are the objectives two part: 1) hysterosalpingosonography vs. gold standard; 2) hysterosalpingosonography vs. hysterosalpingography? Please clarify.

Minor Essential Revisions

Abstract:

* In the abstract and across the manuscript, please do not use the abbreviations for hysterosalpingosonography and hysterosalpingography but rather write out the words as both the abbreviation and original word are the same number of words (i.e., one).

* The statement “as well as references lists of included studies, citations and previous related review articles” should read “as well as references lists of included studies and previous related review articles” since citations don’t have reference lists per say.

Introduction:

* Again too much emphasis on comparing hysterosalpingosonography and hysterosalpingography while in fact they should be comparing hysterosalpingosonography with laparoscopy with chromotubation (gold standard).

* When describing the results of the Holz et al review, it is more beneficial to know if there were any significant differences rather than the point estimates (especially since you did not present any CIs around them).

Discretionary Revisions

* Regarding the search strategy, I would recommend being a bit broader in your concepts including searching for ‘infertility’, ‘fallopian tubes’, etc. and their associated indexing terms to capture non-indexed citations.

Else than these minor clarifications in the intended conduct of the review and proper reporting of the methods and expected conclusions, the protocol is well prepared. I hope that these comments will help in improving the methodology, transparency and reporting of the final protocol and subsequent review.

**Level of interest:** An article of importance in its field
Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
I declare that I have no competing interests.