NOTICE: This document contains correspondence generated during peer review and subsequent revisions but before transmittal to production for composition and copyediting:

- Comments from the reviewers and editors (email to author requesting revisions)
- Response from the author (cover letter submitted with revised manuscript)*

*The corresponding author has opted to make this information publicly available.

Personal or nonessential information may be redacted at the editor’s discretion.

Questions about these materials may be directed to the Obstetrics & Gynecology editorial office: obgyn@greenjournal.org.
Date: May 09, 2019
To: "Omar M Young"
From: "The Green Journal" em@greenjournal.org
Subject: Your Submission ONG-19-562

RE: Manuscript Number ONG-19-562

Simulation training for operative vaginal delivery among obstetrics and gynecology residents: a systematic review

Dear Dr. Young:

Thank you for submitting your manuscript for the CREOG/APGO Educational Supplement for Obstetrics & Gynecology. As you know, final decisions regarding which manuscripts to accept for the supplement will be made in June 2019, after all manuscripts have been reviewed. For those manuscripts, like yours, for which revisions have been requested, we are asking the authors to go ahead and make those revisions now.

If you wish to consider revising your manuscript, you will first need to study carefully the enclosed reports submitted by the referees and editors. Each point raised requires a response, by either revising your manuscript or making a clear and convincing argument as to why no revision is needed. To facilitate our review, we prefer that the cover letter include the comments made by the reviewers and the editor followed by your response. The revised manuscript should indicate the position of all changes made. We suggest that you use the "track changes" feature in your word processing software to do so (rather than strikethrough or underline formatting).

Your paper will be maintained in active status for 21 days from the date of this letter. If we have not heard from you by May 30, 2019, we will assume you wish to withdraw the manuscript from further consideration.

Again, thank you for your submission and the work you are doing to improve medical education.

Roger P. Smith, MD
Guest Editor for the CREOG/APGO Supplement
Assistant Dean for Graduate Medical Education, Faculty and Academic Affairs
Professor of Integrated Medical Science
Florida Atlantic University’s Charles E. Schmidt College of Medicine

Nancy C. Chescheir, MD
Editor-in-Chief of Obstetrics & Gynecology

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REVIEWER COMMENTS:

Reviewer #1: The authors present a systematic review of simulation training for operative vaginal delivery among obstetrics and gynecologic residents. It is submitted as part of the APGO supplement. The authors are to be complimented on focusing on an important education topic. The stated primary objective was to report on the impact of simulation training on OVD. They initially identified nearly 31,000 articles in which ultimately only 8 met inclusion criteria. The eight studies identified were heterogeneous concerning instruments, and outcomes. The authors are left concluding that the bulk of OVD simulation studies have little clinical relevance and that collaborative high-quality studies are needed. The manuscript is well written.

Reviewer #2: This is a systematic review of the existing literature on operative vaginal delivery simulation training.

* Overall this is a well-written paper that presents the limited literature that is available on this subject.
* In the introduction, you narrate very logically why simulation training in this area is important. Be careful to not present unsubstantiated conclusions, though. Specifically, in lines 60-62 you attempt to attribute declining use of forceps and vacuum to duty hour restrictions, but this does not seem to be supported by the citations given.
* The review is well designed with an a priori selection protocol and a quantitative assessment of individual study quality.
* The results section concisely summarizes key findings from each study.
While the discussion section draws very reasonable conclusions, it could be revised for improved clarity and readability. For example, lines 158-161 could be revised to avoid run-on sentences.

Reviewer #3: The authors present a study examining outcomes after OVD simulation training. This is a systemic review/analysis and is overall reasonably well done. There are few articles devoted to systemic reviews in education and this work would be one of a few that examines the effect of simulation training on outcomes. The statistical analysis here is reasonable and I don’t believe that the authors are over reaching in their assessments.

Specific points.
1) One major criticism I have is that all of the data appears to have come from one institute in France. This substantially decreases the generalizability of the data

2) I think that the discussion section should be rewritten- It actually focuses too much on the negative/limitations of the study and should be more structure in its approach- more about what makes the study a good one and how the analysis was done.

3) The small N of this study makes broad discussion and applicability difficult.

4) I don’t understand exactly how the MERSQI was used to draw conclusions in this study. Is it really necessary?

5) Lines 179-181; This is an important critique of your work five the number of factors that go into the decision for CD.

Reviewer #4: This literature review addresses the important topic of simulation training for operative vaginal delivery. The review was well-done, gives good critique of the pertinent studies, and concludes that currently a significant knowledge gap exists in terms of how to simulate this experience for effective learning, as few studies are available and the available studies are of low to moderate scores on the MERSQI scale.

The paper could be strengthened by fully fleshing out a design for future studies which would rate highly on the MERSQI scale, ie development of a validated scale, 3 or more collaborating institutions, etc. Being more specific in proposing future directions would serve a double purpose of more fully articulating future research directions while also reviewing the MERSQI scale for the reader.

STATISTICAL EDITOR COMMENTS:

The Statistical Editor makes the following points that need to be addressed:

Table 1: The studies by Dupuis (2006 and 2011) and by Moreau (2006 and 2008) had samples of 8, 10, 3 and 5, respectively. Those should either not be included, since they are really case series, not large enough to be studies. Or, alternatively, should be in a separate category from the other 4 studies which had samples of 389, 55, 44 and > 3,500. These should not be given equal weight, even without a formal meta-analysis. The four smaller studies had such small samples not clear how one could have generalized the stated conclusions.

EDITOR COMMENTS:

1. You are receiving my own review comments, in addition to these of your peer and statistical reviews. I really hope you can focus your introduction quite a bit. You start out by talking about the rising cesarean rate which isn’t really addressed in your paper, and wasn’t anything you collected data about.

What your paper is about is is simulation training: does it have a positive outcome on either learner's comfort level or knowledge or on patient outcomes. Lead with that. What is known about simulation in general? Have any simulation programs in ob gyn been shown to improve learner/patient outcomes in a lasting way? What kind of surgical or procedural techniques are the best foci for simulation training? Then, briefly, why OVD would be good. Please clearly state your objectives.
Your conclusion needs to be tempered because what you found is that the existing data isn't very robust or of high quality. That should really be what the conclusion should be about primarily.

The notated PDF is uploaded to this submission's record in Editorial Manager. If you cannot locate the file, contact Randi Zung and she will send it by email - rzung@greenjournal.org.

- As written, it looks like you did quality assessment on all 30,813 abstracts. I suspect that is not true. Please edit for clarity re: what subset you assessed by MERSQI. Also, you haven't told us about the studies really other than topic in the Methods section. Did you only include case series? RCT's? etc.

- The Journal style doesn't use the virgule (/) except in numeric expressions. Please edit here and in all instances.

- please provide the statistical evidence to support these statements. Also were these findings of improved placement and force generation noted in the simulation models only or did these studies also look at actual patient outcomes? It would be interesting to tell us a bit more about the included trials.

- you start this sentence by referencing a risk in CD in the US but the second phrase of your sentence which logically should be about US, isn't. And why reference Latin America to the exclusion of the rest of the world? Many of your included references are from France. Why not include France? Since the readers will know about the rising rates in general, perhaps you could eliminate that and just say something like "Thirty-fourty percent of births in North America, Latin America and Europe are by cesarean delivery" [I'm not sure of the Eur. data]. As well, it would be great to provide a reference of if you can find it about the portion of cesareans performed in the second stage, when OVD would potentially be used.

- is it just about the docs' comfort? What about the risk of complication?

- I don't know exactly what you are saying here. Are you using "increased" as a verb or adjective here? Your reference is to general surgical skill teaching and I suspect the ACGME was not really thinking about the points the precede your "THUS"--. I suspect it was other types of surgical skills.

Also, ABOG had similar requirements, didn't it? So is this really a new thing that graduating residents need to have reached some threshold? If so, perhaps saying something like "The declining rates of operative vaginal delivery, the efforts to decrease the cesarean birth rate, and the minimum training threshold are all important impetuses to find alternate methods educate obstetrics and gynecology residents to safely perform operative vaginal deliveries".

- not sure any one is going to be happy with you suggesting that residents don't have supervision. Why wouldn't trainees have good direction and supervision in a potentially complex delivery situation? That's when one would anticipate more direction and supervision.

- I really think you are trying to make an important point but you're not quite there. Performing an OVD in a patient is highly educational but in some instances, (for instance non reassuring fetal status, hemorrhage, maternal instability) the opportunity to learn the basics of forcep or vacuum application and traction aren't present as one just needs to get the baby delivered. But the opportunity to learn how to manage other aspects of these deliveries otherwise are there--hardly diminished.

The potential for simulation training is to teach the learner the basics--the blocking and tackling of forceps/VE application, traction so that those other aspects of live patient experiences can be focused on. Is that the sort of thing you are trying to explain here?

- delete this sentence--your goal statement indicates that there is a gap.

- perinatal morbidity refers to morbidity for the fetus or neonate, which you've not mentioned above.

- What goal? increasing resident experience of decreasing perinatal morbidity?

- what about language?

- Move highlighted sentence to follow line 91 as it describes your sources, not selection. Same true for highlighted sentence on line 100-101. In this section, you don't tell us if or how you eliminated any papers.

- Did you have a data abstraction form that had been agreed to prior to starting the review? Can you succinctly tell us your exclusion criteria? I know from the abstract that you started w/ almost 31000 papers and ended up with 8 but I don't know how you got there. Did you do your secondary comprehensive review on only the 8? You can just say that "Two investigators read the full text of the final articles and abstracted data" and deleted lines 101-103 otherwise.
- I don't know what this would eliminate the need to do a risk of bias assessment. How can we know if the results of the included papers, which you are rolling up in to a systematic review, can be believed?

- can you state ...each worth up to three points so that the maximum score is xxx.

- when I read this I thought it meant that we all performed at the same institution. Could you rewrite to avoid others reading it that way? Perhaps "All were single-site studies".

- One reviewer didn't understand your emphasis on the MERSQI. Please do include this information despite that comment.

- Important to consider the following information regarding the OR here of 0.74. This lies well within the range of potential bias per Grimes/Schulz article referenced here and does not support the conclusion that they were "much less likely" ....Please note that effect sizes (RR, OR) within the zone of potential bias should be noted as weak. Those effect sizes in the zone of potential interest should be emphasized. (Ref: False alarms and pseudo-epidemics. The limitations of observational epidemiology. Grimes DA, Schulz KF. Ob Gyn 2012;120:920-7)

- So this is really important as you started your paper talking about rates of cesarean delivery.

- give that data too, not just the immediate. Important to show whether the knowledge fades.

- it is an idiosyncratic fact that at the Journal we tend to avoid the use of the word impact to imply the result of a change, preferring to limit "impact" to mean a physical blow.

- Please avoid causal language throughout your manuscript. Your study can identify and quantify associations, but not causation. Language should be changed in the precis, abstract, and manuscript, if causal language is used in those sites. Here, you would say...simulation appears to be associated with improved provider skill....and selected patient outcomes.

- break into 2 sentences.

- break sentence up. Too. long

- You could strengthen the importance of your work here by more strongly discussing what is missing from the literature--what type of studies need to be done to figure out the role, if any of simulation in training on OVD. Nothing really about its value can be found from what you have put together here because of the generally poor quality and small quantity of the work that is include. Articulate what you think should be done: You've mentioned several of them in passing and perhaps there are others.
  1. Problem of single site
  2. Statistical reviewer notes issue of some of these papers being very small ## of residents.
  3. Need to have patient outcomes
  4. Lack of randomization
  5. Lack of comparison of simulation methods

2. The Editors of Obstetrics & Gynecology are seeking to increase transparency around its peer-review process, in line with efforts to do so in international biomedical peer review publishing. If your article is accepted, we will be posting this revision letter as supplemental digital content to the published article online. Additionally, unless you choose to opt out, we will also be including your point-by-point response to the revision letter, as well as subsequent author queries. If you opt out of including your response, only the revision letter will be posted. Please reply to this letter with one of two responses:

a. OPT-IN: Yes, please publish my response letter and subsequent email correspondence related to author queries.
b. OPT-OUT: No, please do not publish my response letter and subsequent email correspondence related to author queries.

3. As of December 17, 2018, Obstetrics & Gynecology has implemented an "electronic Copyright Transfer Agreement" (eCTA) and will no longer be collecting author agreement forms. When you are ready to revise your manuscript, you will be prompted in Editorial Manager (EM) to click on "Revise Submission." Doing so will launch the resubmission process, and you will be walked through the various questions that comprise the eCTA. Each of your coauthors will receive an email from the system requesting that they review and electronically sign the eCTA.

Any author agreement forms previously submitted will be superseded by the eCTA. During the resubmission process, you are welcome to remove these PDFs from EM. However, if you prefer, we can remove them for you after submission.

4. Please include your PROSPERO registration information at the bottom of your abstract.

5. Standard obstetric and gynecology data definitions have been developed through the reVITALize initiative, which was convened by the American College of Obstetricians and Gynecologists and the members of the Women's Health Registry Alliance. Obstetrics & Gynecology has adopted the use of the reVITALize definitions. Please access the obstetric and gynecology data definitions at https://www.acog.org/About-ACOG/ACOG-Departments/Patient-Safety-and-Quality-
Improvement/reVITALize. If use of the reVITALize definitions is problematic, please discuss this in your point-by-point response to this letter.

6. Because of space limitations, it is important that your revised manuscript adhere to the following length restrictions. Your submission should not exceed 3,000 words. The word count will include all numbered pages in a manuscript (i.e., title page, précis, abstract, text, tables, boxes, figure legends, and appendixes). References are not included in the word count.

Please limit your Introduction to 250 words and your Discussion to 750 words.

7. The most common deficiency in revised manuscripts involves the abstract. Be sure there are no inconsistencies between the Abstract and the manuscript, and that the Abstract has a clear conclusion statement based on the results found in the paper. Make sure that the abstract does not contain information that does not appear in the body text. If you submit a revision, please check the abstract carefully.

Please limit your abstract to a maximum of 300 words.

8. Only standard abbreviations and acronyms are allowed. A selected list is available online at http://edmgr.ovid.com/ong/accounts/abbreviations.pdf. Abbreviations and acronyms cannot be used in the title or précis. Abbreviations and acronyms must be spelled out the first time they are used in the abstract and again in the body of the manuscript.

9. The journal does not use the virgule symbol (/) in sentences with words. Please rephrase your text to avoid using "and/or," or similar constructions throughout the text. You may retain this symbol if you are using it to express data or a measurement.

10. Please review the journal’s Table Checklist to make sure that your tables conform to journal style. The Table Checklist is available online here: http://edmgr.ovid.com/ong/accounts/table_checklist.pdf.

11. The American College of Obstetricians and Gynecologists' (ACOG) documents are frequently updated. These documents may be withdrawn and replaced with newer, revised versions. If you cite ACOG documents in your manuscript, be sure the reference you are citing is still current and available. If the reference you are citing has been updated (i.e., replaced by a newer version), please ensure that the new version supports whatever statement you are making in your manuscript and then update your reference list accordingly (exceptions could include manuscripts that address items of historical interest). If the reference you are citing has been withdrawn with no clear replacement, please contact the editorial office for assistance (obgyn@greenjournal.org). In most cases, if an ACOG document has been withdrawn, it should not be referenced in your manuscript (exceptions could include manuscripts that address items of historical interest). All ACOG documents (e.g., Committee Opinions and Practice Bulletins) may be found via the Clinical Guidance & Publications page at https://www.acog.org/Clinical-Guidance-and-Publications/Search-Clinical-Guidance.

12. Authors whose manuscripts have been accepted for publication have the option to pay an article processing charge and publish open access. With this choice, articles are made freely available online immediately upon publication. An information sheet is available at http://links.lww.com/LWW-ES/A48. The cost for publishing an article as open access can be found at http://edmgr.ovid.com/acd/accounts/ifauth.htm.

Please note that if your article is accepted, you will receive an email from the editorial office asking you to choose a publication route (traditional or open access). Please keep an eye out for that future email and be sure to respond to it promptly.

13. If you choose to revise your manuscript, please submit your revision via Editorial Manager for Obstetrics & Gynecology at http://ong.editorialmanager.com. It is essential that your cover letter list point-by-point the changes made in response to each criticism. Also, please save and submit your manuscript in a word processing format such as Microsoft Word.

If you submit a revision, we will assume that it has been developed in consultation with your co-authors and that each author has given approval to the final form of the revision.

Again, your paper will be maintained in active status for 21 days from the date of this letter. If we have not heard from you by May 30, 2019, we will assume you wish to withdraw the manuscript from further consideration.

2017 IMPACT FACTOR: 4.982
2017 IMPACT FACTOR RANKING: 5th out of 82 ob/gyn journals

In compliance with data protection regulations, you may request that we remove your personal registration details at any time. (Use the following URL: https://www.editorialmanager.com/ong/login.asp?a=r). Please contact the publication office if you have any questions.
Dear Dr. Chescheir and editors,

RE: Simulation training for operative vaginal delivery among obstetrics and gynecology residents: a systematic review

We thank you and the editors and reviewers for the positive and thoughtful comments regarding our manuscript. We feel our revised manuscript with the changes outlined below is significantly strengthened by your input and hope that you continue to consider our manuscript for publication in Obstetrics and Gynecology.

Sincerely,

Omar Young

REVIEWER COMMENTS:

Reviewer #1: The authors present a systematic review of simulation training for operative vaginal delivery among obstetrics and gynecologic residents. It is submitted as part of the APGO supplement. The authors are to be complimented on focusing on an important education topic. The stated primary objective was to report on the impact of simulation training on OVD. They initially identified nearly 31,000 articles in which ultimately only 8 met inclusion criteria. The eight studies identified were heterogeneous concerning instruments, and outcomes. The authors are left concluding that the bulk of OVD simulation studies have little clinical relevance and that collaborative high-quality studies are needed. The manuscript is well written.

We sincerely thank the reviewer for the positive assessment of our study and manuscript. We feel that our study identifies a significant gap in medical education research and our revisions aim to outline future directions to fill this gap.

Reviewer #2: This is a systematic review of the existing literature on operative vaginal delivery simulation training.

* Overall this is a well-written paper that presents the limited literature that is available on this subject.
* In the introduction, you narrate very logically why simulation training in this area is important. Be careful to not present unsubstantiated conclusions, though. Specifically, in lines 60-62 you attempt to attribute declining use of forceps and vacuum to duty hour restrictions, but this does not seem to be supported by the citations given.
* The review is well designed with an a priori selection protocol and a quantitative assessment of individual study quality.
* The results section concisely summarizes key findings from each study.
* While the discussion section draws very reasonable conclusions, it could be revised for improved clarity and readability. For example, lines 158-161 could be revised to avoid run-on sentences.
We appreciate this reviewer’s positive review of our study and appreciate the details mentioned above. We have edited the introduction so as to not overstate our hypotheses regarding the reasons for the decline of OVD use. We also edited the discussion to hopefully improve the clarity of the points we are attempting to make.

Reviewer #3: The authors present a study examining outcomes after OVD simulation training. This is a systemic review/analysis and is overall reasonably well done. There are few articles devoted to systemic reviews in education and this work would be one of a few that examines the effect of simulation training on outcomes. The statistical analysis here is reasonable and I don't believe that the authors are over-reaching in their assessments.

We appreciate the constructive comments provided by this reviewer and hope that our study can summarize the current evidence in a succinct manner for the readers and highlight the need for further studies. We address each point below.

Specific points.
1) One major criticism I have is that all of the data appears to have come from one institute in France. This substantially decreases the generalizability of the data

We agree that this is one of the biggest limitations of the current evidence as we mentioned in lines 156-158. We hope that the publication of this data will demonstrate to the readers this gap and encourage further research into the effect of simulation of OVD training and patient outcomes.

2) I think that the discussion section should be rewritten- It actually focuses too much on the negative/limitations of the study and should be more structure in its approach- more about what makes the study a good one and how the analysis was done.

We appreciate this point. In trying to highlight the gaps in education research, we neglected to highlight the positives of our systematic review. We have edited the discussion to reflect our pride in our work while still including our assessment of the current literature.

3) The small N of this study makes broad discussion and applicability difficult.

We agree with the reviewer in this point. With only 8 studies and, in most, only a small number of residents included, it is hard to draw any substantial conclusions regarding the benefits of OVD simulation. However, simulation has been well-shown to improve provider comfort and patient outcomes in other areas of obstetrics and gynecology, and we feel that future studies focusing on provider comfort and patient outcomes may reveal a significant benefit for those with access to OVD simulation, encouraging more OBGYN residency programs to incorporate this into resident training.

4) I don't understand exactly how the MERSQI was used to draw conclusions in this study. Is it really necessary?
We feel the use of the MERSQI, a validated tool evaluating medical education research strengthens our study by both identifying the most robust studies included (Cheong, et al., Vadnais, et al., and Gossett, et al.) in a systematic fashion and by demonstrating, in an objective way, the gaps in the current literature. We hope the edits to our discussion further highlight the importance of the MERSQI and its ability to help design a more robust study.

5) Lines 179-181; This is an important critique of your work five the number of factors that go into the decision for CD.

We hope that our study highlights the gaps in the current knowledge and that future studies include the previously studied patient-centered outcomes as well as those important factors related to OVD not previously evaluated.

Reviewer #4: This literature review addresses the important topic of simulation training for operative vaginal delivery. The review was well-done, gives good critique of the pertinent studies, and concludes that currently a significant knowledge gap exists in terms of how to simulate this experience for effective learning, as few studies are available and the available studies are of low to moderate scores on the MERSQI scale.

The paper could be strengthened by fully fleshing out a design for future studies which would rate highly on the MERSQI scale, ie development of a validated scale, 3 or more collaborating institutions, etc. Being more specific in proposing future directions would serve a double purpose of more fully articulating future research directions while also reviewing the MERSQI scale for the reader.

We thank the reviewer for their comments regarding our study and are happy that our message was well-received. We aim to outline an ideal study in our revised discussion and highlight the potential benefit of the results obtained from such a study.

STATISTICAL EDITOR COMMENTS:

The Statistical Editor makes the following points that need to be addressed:

Table 1: The studies by Dupuis (2006 and 2011) and by Moreau (2006 and 2008) had samples of 8, 10, 3 and 5, respectively. Those should either not be included, since they are really case series, not large enough to be studies. Or, alternatively, should be in a separate category from the other 4 studies which had samples of 389, 55, 44 and > 3,500. These should not be given equal weight, even without a formal meta-analysis. The four smaller studies had such small samples not clear how one could have generalized the stated conclusions.

We appreciate these comments. We agree that these studies should not be given the same weight as those more robust studies included and hope the edits we’ve made to the discussion highlight this.
EDITOR COMMENTS:

1. You are receiving my own review comments, in addition to these of your peer and statistical reviews. I really hope you can focus your introduction quite a bit. You start out by talking about the rising cesarean rate which isn't really addressed in your paper, and wasn't anything you collected data about.

What your paper is about is simulation training: does it have a positive outcome on either learner's comfort level or knowledge or on patient outcomes. Lead with that. What is known about simulation in general? Have any simulation programs in ob gyn been shown to improve learner/patient outcomes in a lasting way? What kind of surgical or procedural techniques are the best foci for simulation training? Then, briefly, why OVD would be good. Please clearly state your objectives.

Your conclusion needs to be tempered because what you found is that the existing data isn't very robust or of high quality. That should really be what the conclusion should be about primarily.

We thank you for your thorough review of our manuscript. We feel that the revised manuscript more effectively communicates the above points, and we have addressed each following point below.

***The notated PDF is uploaded to this submission's record in Editorial Manager. If you cannot locate the file, contact Randi Zung and she will send it by email - rzung@greenjournal.org.***

- As written, it looks like you did quality assessment on all 30,813 abstracts. I suspect that is not true. Please edit for clarity re: what subset you assessed by MERSQI. Also, you haven't told us about the studies really other than topic in the Methods section. Did you only include case series? RCT's? etc.

We appreciate these comments and hope that our edits further clarify our study selection process.

- The Journal style doesn’t not use the virgule (/) except in numeric expressions. Please edit here and in all instances.

This has been corrected.

- please provide the statistical evidence to support these statements. Also were these findings of improved placement and force generation noted in the simulation models only or did these studies also look at actual patient outcomes? It would be interesting to tell us a bit more about the included trials.

The statistical evidence for these results and further details regarding the included studies has been included in the main text due to space constraints in the abstract.
- you start this sentence by referencing a risk in CD in the US but the second phrase of your sentence which logically should be about US, isn't. And why reference Latin America to the exclusion of the rest of the world? Many of your included references are from France. Why not include France? Since the readers will know about the rising rates in general, perhaps you could eliminate that and just say something like "Thirty-forty percent of births in North America, Latin America and Europe are by cesarean delivery" [I'm not sure of the Eur. data]. As well, it would be great to provide a reference of if you can find it about the portion of cesareans performed in the second stage, when OVD would potentially be used.

We feel our edits now more succinctly describe the problem.

- is it just about the docs' comfort? What about the risk of complication?

This has been edited.

- I don't know exactly what you are saying here. Are you using "increased" as a verb or adjective here? Your reference is to general surgical skill teaching and I suspect the ACGME was not really thinking about the points the precede your "THUS"--. I suspect it was other types of surgical skills.

Also, ABOG had similar requirements, didn't it? SO is this really a new thing that graduating residents need to have reached some threshold? If so, perhaps saying something like "The declining rates of operative vaginal delivery, the efforts to decrease the cesarean birth rate, and the minimum training threshold are all important impetuses to find alternate methods educate obstetrics and gynecology residents to safely perform operative vaginal deliveries".

Thank you for this comment. We feel the suggested change more clearly explains the need for our study.

- not sure any one is going to be happy with you suggesting that residents don't have supervision. Why wouldn't trainees have good direction and supervision in a potentially complex delivery situation? That's when one would anticipate more direction and supervision.

This point is well-taken and we have removed this from the manuscript.

- I really think you are trying to make an important point but youu're not quite there. Performing an OVD in a patient is highly educational but in some instances, (for instance non reassuring fetal status, hemorrhage, maternal instability) the opportunity to learn the basics of forcep or vacuum application and traction aren't present as one just needs to get the baby delivered. But the
opportunity to learn how to manage other aspects of these deliveries otherwise are there—hardly diminished.

The potential for simulation training is to teach the learner the basics—the blocking and tackling of forceps/VE application, traction so that those other aspects of live patient experiences can be focused on. Is that the sort of thing you are trying to explain here?

Due to space constraints, this point was removed from the revised draft but we still feel that our goal and the potential benefit of OVD is clearly conveyed in our revised manuscript.

- delete this sentence--your goal statement indicates that there is a gap.

Done.

- perinatal morbidity refers to morbidity for the fetus or neonate, which you've not mentioned above.

This has been removed.

- What goal? increasing resident experience of decreasing perinatal morbidity.?

This sentence has been removed.

- what about language?

- Move highlighted sentence to follow line 91 as it describes your sources, not selection. Same true for highlighted sentence on line 100-101. In this section, you don't tell us if or how you eliminated any papers.

These changes have been made.

- Did you have a data abstraction form that had been agreed to prior to starting the review? Can you succinctly tell us your exclusion criteria? I know from the abstract that you started w/ almost 31000 papers and ended up with 8 but I don't know how you got there. Did you do your secondary comprehensive review on only the 8? You can just say that "Two investigators read the full text of the final articles and abstracted data" and deleted lines 101-103 otherwise.

Beside the listed exclusions, our inclusion criteria was quite lenient. In order to be included, the study had to include the details regarding their simulation protocol and report any provider or patient-based outcome.

- I don't know what this would eliminate the need to do a risk of bias assessment. How can we
know if the results of the included papers, which you are rolling up in to a systematic review, can be believed?

We have included information on the risk of bias in the edited manuscript.

- can you state ...each worth up to three points so that the maximum score is xxx.

Done.

- when I read this I thought it meant that we all performed at the same institution. Could you rewrite to avoid others reading it that way? Perhaps "All were single-site studies".

Done.

- One reviewer didn't understand your emphasis on the MERSQI. Please do include this information despite that comment.

We agree that the MERSQI is an important component of our study.

- Important to consider the following information regarding the OR here of 0.74. This likes well within the range of potential bias per Grimes/Schulz article referenced here and does not support the conclusion that they were "much less likely" .....Please note that effect sizes (RR, OR) within the zone of potential bias should be noted as weak. Those effect sizes in the zone of potential interest should be emphasized. (Ref: False alarms and pseudo-epidemics. The limitations of observational epidemiology. Grimes DA, Schulz KF. Ob Gyn 2012;120:920-7)

Thank you for this point. We have added a comment in the discussion highlighting the weak association and risk for bias in this and other studies.

- So this is really important as you started your paper talking about rates of cesarean delivery.

We agree and hope that future studies include this important patient-centered outcome.

- give that data too, not just the immediate. Important to show whether the knowledge fades.

This has been added.

- it is an idiosyncratic fact that at the Journal we tend to avoid the use of the word impact to imply the result of a change, preferring to limit "impact" to mean a physical blow.

This has been changed throughout the manuscript.

- Please avoid causal language throughout your manuscript. Your study can identify and quantify
associations, but not causation. Language should be changed in the precis, abstract, and manuscript, if causal language is used in those sites. Here, you would say...simulation appears to be associated with improved provider skill....and selected patient outcomes.

This has been edited throughout the manuscript.

- break into 2 sentences.

Done.

- break sentence up. Too. Long

Done.

- You could strengthen the importance of your work here by more strongly discussing what is missing from the literature--what type of studies need to be done to figure out the role, if any of simulation in training on OVD.
Nothing really about its value can be found from what you have put together here because of the generally poor quality and small quantity of the work that is include. Articulate what you think should be done:
You've mentioned several of them in passing and perhaps there are others.
1. Problem of single site
2. Statistical reviewer notes issue of some of these papers being very small ## of residents.
3. Need to have patient outcomes
4. Lack of randomization
5. Lack of comparison of simulation methods

We feel the discussion is greatly improved by suggesting more concrete requirements needed for the future study of this important educational topic.

2. The Editors of Obstetrics & Gynecology are seeking to increase transparency around its peer-review process, in line with efforts to do so in international biomedical peer review publishing. If your article is accepted, we will be posting this revision letter as supplemental digital content to the published article online. Additionally, unless you choose to opt out, we will also be including your point-by-point response to the revision letter, as well as subsequent author queries. If you opt out of including your response, only the revision letter will be posted. Please reply to this letter with one of two responses:

a. OPT-IN: Yes, please publish my response letter and subsequent email correspondence related to author queries.
b. OPT-OUT: No, please do not publish my response letter and subsequent email correspondence related to author queries.
We will opt-in for this. Thank you.

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Any author agreement forms previously submitted will be superseded by the eCTA. During the resubmission process, you are welcome to remove these PDFs from EM. However, if you prefer, we can remove them for you after submission.

We will resubmit with the updated manuscript.

4. Please include your PROSPERO registration information at the bottom of your abstract.

This has been edited.

5. Standard obstetric and gynecology data definitions have been developed through the reVITALize initiative, which was convened by the American College of Obstetricians and Gynecologists and the members of the Women's Health Registry Alliance. Obstetrics & Gynecology has adopted the use of the reVITALize definitions. Please access the obstetric and gynecology data definitions at https://www.acog.org/About-ACOG/ACOG-Departments/Patient-Safety-and-Quality-Improvement/reVITALize. If use of the reVITALize definitions is problematic, please discuss this in your point-by-point response to this letter.

reVITALize Data Element Definitions - ACOG

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reVITALize Data Element Definitions. The American College of Obstetricians and Gynecologists and the members of the Women's Health Registry Alliance are pleased to lead the reVITALize data definition standardization efforts to harmonize definitions for the data elements.

We chose to utilize the term operative vaginal delivery in our manuscript as there is no reVITALize definition encompassing both vacuum and forceps assisted deliveries. For consistency, we chose to utilize the terms cesarean delivery, forceps-assisted vaginal delivery and vacuum-assisted vaginal delivery.

6. Because of space limitations, it is important that your revised manuscript adhere to the following length restrictions. Your submission should not exceed 3,000 words. The word count will include all numbered pages in a manuscript (i.e., title page, précis, abstract, text, tables, boxes, figure legends, and appendixes). References are not included in the word count.
Please limit your Introduction to 250 words and your Discussion to 750 words.

7. The most common deficiency in revised manuscripts involves the abstract. Be sure there are no inconsistencies between the Abstract and the manuscript, and that the Abstract has a clear conclusion statement based on the results found in the paper. Make sure that the abstract does not contain information that does not appear in the body text. If you submit a revision, please check the abstract carefully.

Please limit your abstract to a maximum of 300 words.

8. Only standard abbreviations and acronyms are allowed. A selected list is available online at [http://edmgr.ovid.com/ong/accounts/abbreviations.pdf](http://edmgr.ovid.com/ong/accounts/abbreviations.pdf). Abbreviations and acronyms cannot be used in the title or précis. Abbreviations and acronyms must be spelled out the first time they are used in the abstract and again in the body of the manuscript.

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