OBSTETRICS & GYNECOLOGY

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Date: Jan 07, 2022
To: "Woojin Chong" [redacted]
From: "The Green Journal" em@greenjournal.org
Subject: Your Submission ONG-21-2377

RE: Manuscript Number ONG-21-2377

Effectiveness of Clay Pelvic Model: A Hands-On Approach to Understand Pelvic Floor Anatomy

Dear Dr. Chong:

Your manuscript has been reviewed by the Editorial Board and by special expert referees. Although it is judged not acceptable for publication in Obstetrics & Gynecology in its present form, we would be willing to give further consideration to a revised version.

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).

Please be sure to address the Editor comments (see "EDITOR COMMENTS" below) in your point-by-point response.

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 Jan 28, 2022, we will assume you wish to withdraw the manuscript from further consideration.

REVIEWER COMMENTS:

Reviewer #1:

Thank you for the opportunity to review you work. I am very grateful for the time and effort author put into creating and implementing this project.

I have the following questions and comments.

Main points:

1. Subject matter.
As a gyn surgeon and a surgical educator, I can very much relate to the topic and drive of the authors to address this problem. Timely coincidence-I am working on a similar model right now (not focusing on pelvic floor but rather intrabdominal pelvic anatomy) so can very much relate to concerns with having difficulty teaching residents anatomy given limited and diminishing resources in surgical education. I think many readers of this journal, just like myself, will benefit from the information that authors shared.

2. Comparison to cadaver labs.
I do agree that in times when we had money to do cadaver labs (5-10 years ago) those were super helpful in teaching pelvic floor anatomy, but even cadaver as a teaching modality is limited because quite a few structures can't be easily shown on a cadaver and not all cadavers have the same anatomy. For this reason, I prefer to have anatomy primer or similar teaching tool (to prepare for the lab) or an adjunct to use during the lab (to look at during dissection) to be able to correlate what you see in caver to teaching aids (models/anatomy textbooks/ handouts with pics). So, I would say advantages of your model are not only to teach pelvic floor when cadavers are not available but also as a teaching aid to supplement other activities (cadaver lab, lectures, etc.).

3. Assessment of effectiveness.

I think most educators would agree that neither pre-and post- written test (which I assume authors wrote themselves and it has not undergone any validity studies—this should be clearly stated in paper) and satisfaction survey (which I assume is also not validated by any studies—this also should be stated) add much value to the model. Written knowledge test and knowledge of anatomy are like comparing apples and oranges (as stated in lines 192-194), and confidence scores have been shown consistently inaccurate across all domains of learning, so they are not a useful measure. I am not judging

these modalities of assessment (esp. since I am writing and IRB with exact same type assessment for the model I am working on so that I could publish it knowing that it is not going to add any useful information to my work), but just saying they are not useful to educators. Publishing world unfortunately has not caught up with modern concepts of validity in simulation education, so they keep expecting to see those things in studies and papers that are being submitted. I really do think your model is valuable, but as a scholar-educator I would feel much better if authors acknowledged those limitations. I would not remove test results and survey results from the paper, I would just move them out into supplemental materials section after brief description of results and not focus on them too much to avoid overemphasizing their significance.

On the same note, randomizing residents into clay vs. no clay interventions would not add useful data either because any type of educational intervention would result in some improvement, so that would not help (I would add that to your discussion).

One thing that might be worth to consider describing in more detail is how you arrived at your model (ex. modifications/improvements or different versions of it), describing the process of how you came up with using clay, why you chose this pelvis vs. others, what other things you considered or tried, and for the future studies to consider asking other surgical educators about what they like about this model and what they would like to see improved (like a Delfi method of sorts). Those types of "how we got there" descriptive components are useful in model/curriculum design papers.

As a community of practice, we need to explore other ways of assessment of education interventions, a process that requires resources which we currently do not have. Until then, framing those as limitations in our work would only be fare.

4. I think tables 1-5 and figure 2-4 should go into supplemental materials section—data presented there is not essential to the work presented.
5. Figure 1- I like this figure—wondering if labeling structures in each picture will help reader see components a bit easier.
6. Video. In my opinion, a how-to video (example of similar publication below) would greatly benefit this paper.

https://www.mdedge.com/obgyn/article/155861/surgery/felt-pelvic-anatomy-model-teaching-tool-students-and-residents

Advolodkina P, Chahine EB. Interactive Pelvic Anatomy Model: A Tool for Teaching Basic Pelvic Anatomy. Obstet Gynecol. 2017 Oct;130(4):873-877. doi: 10.1097/AOG.0000000000002241. PMID: 28885415.

In terms of enhancing your academic productivity (you can add this to your CV) and helping other educators by increasing exposure, you could also present this video at ACOG, APGO-CREOG, SGS, AAGL or the like prior to publication, and after its publication to submit it to ACOG simulation working group tool kit (hard to find on ACOG website but contact person for it is below).

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7. Novelty of your work.

1. Line 202-204. I would clarify here that your paper, unlike Myers paper (ref 4), does provide detailed how-to instructions, however, Theodore paper (ref 7) has very detailed instructions in links embedded in the paper, so this sentence needs to be modified to say that you are referring to ref 4 only.
2. I would highlight that your paper is a modified, easy to do, teacher and learner friendly teaching tool (improvement from Meyers) and is more focused on pelvic floor than Theodore paper which targeted multiple structures for medical students (and is too cumbersome for residents to make it implementable), and that is what differentiates our paper from theirs. Without highlighting this reader might question novelty of your paper compared to those 2.

8. Comparison to other models (Lines 63-66)

I think authors should dive a bit deeper into what other teaching tools are out there to frame their work for readers who are not experts in this area.

a. For example, reference below needs to be added and

Advolodkina P, Chahine EB. Interactive Pelvic Anatomy Model: A Tool for Teaching Basic Pelvic Anatomy. Obstet Gynecol. 2017 Oct;130(4):873-877. doi: 10.1097/AOG.0000000000002241. PMID: 28885415.

b.
Authors should mention commercially available models and their limitations (examples below):

https://www.a3bs.com/female-pelvis-skeleton-model-with-ligaments-muscles-organs-4-part-3b-smart-anatomy-1000287-h203-3b-scientific,p_31_14447.html

https://www.a3bs.com/human-female-pelvis-skeleton-model-with-ligaments-vessels-nerves-pelvic-floor-muscles-organs-6-part-3b-smart-anatomy-1000288-h204-3b-scientific,p_31_14449.html

https://www.medicaldevicedepot.com/Composite-Pelvis-and-Pelvic-Floor-p/267A.htm?dfw_tracker=3918-5073&gclid=CjwKCAiAtdGNBhAmEiwAWxGcUp8T-GlwEqJ1YMtn5isGT3yslGm8tWgeKKMbPm2jN0FF9oIRx0gZ6xoCPnEQAvD_BwE

https://www.wish.com/product/5db29d6b50121b0887034177?hide_login_modal=true&from_ad=goog_shopping&_display_country_code=US&_force_currency_code=USD&pid=googleadwords_int&c=%7BcampaignId%7D&ad_cid=5db29d6b50121b0887034177&ad_cc=US&ad_curr=USD&ad_price=108.90&campaign_id=7203534630&gclid=CjwKCAiAtdGNBhAmEiwAWxGcUmZptREuchSVbebGXnsKTIEVCqXaRfVaNUuc8RDbHe1NPYkOY_LeYBoCg9AQAvD_BwE&share=web

9. Line 104. Consider providing materials included in lecture (teaching aid or teaching script) as a supplemental document.

Other points

10. Lines 53-59 could be condensed and shortened. Just staying that understanding pelvic floor anatomy is important for OBGYN is enough. I don't think journal audience need to be explained importance of pelvic floor anatomy.

11. With regard to ref 4—agree that it is limited because there is no how-to. However, in addition to how-to instructions (like figure 1) and potentially a video, I think addition some description of a teaching script of how to describe this to residents and what they were told during the construction would be of help.

An example of a teaching script is in reference 7-- has links in text to those documents, for example.

12. Line 84. Please provide info about where to buy this pelvis since some readers will try to replicate this model. Likewise, in line 87, pls provide which brand modeling clay was used (since some of them vary in quality and consistency).
13. Lines 170-172. In addition to birthing process and pelvic floor disorders, one of the main reasons to learn pelvic floor anatomy would for to understand surgical procedures for those residents who will go into surgical subspecialties such as urogyn, MIGS and onc. I would add that to the benefits you listed.
14. Lines 172-174. As mentioned before, limitation of cadaver labs is not just time and cost, but also inability to see all structures clearly. Please add.
15. Line 223. Rather than using phrase "alternative method" I would use something like "an adjunct", "a teaching aid" ,"enhancement" , to emphasize that it does not replace other modalities but rather adds to list of tools that can improve learning.
16. Abstract needs to be modified based on edits made based on suggestions above.

Reviewer #2:

The authors built upon previously published work showing the effectiveness of clay-based pelvic modeling to teach pelvic floor anatomy by creating step by step instructions for the process. The authors do meet their objective which is clearly stated. An advantage of this model is the very low cost, readily available materials, and ability to do this repeatedly if desired. Authors do detail strengths and limitations of this study. Results and effectiveness also dependent on the quality and knowledge of the instructors (no different from any learning experience).
Line 86 - what is A4 paper?
Line 103-126 - what guidance did the residents receive from the faculty while building the model? Did faculty ensure correct anatomical placement of the structures at each step or did resident solely work off of pictures and self-knowledge? Please provide some detail about this. Guidance from the instructor can potentially influence satisfaction and learning outcomes.
Line 207-222 - thorough acknowledgement of limitation of this study. Another limitation is effectiveness may vary with the differences in the type of learner residents may be as all education approaches may not work for all individuals.

Reviewer #3:

Thank you for allowing me to review this study on the effectiveness of a clay pelvic model for teaching anatomy to residents. The topic is of great important, and it is clear that ample thought and detail went into the creation of this model. The major limitations lie in the sample size, and on the validity evidence that should be collected on all the elements on which the conclusion of the study hinge.

Abstract:

-Objectives clearly defined, noting that besides building the model, the activity is meant to increase knowledge and confidence
-Line 42: would rephrase "almost 100%"
-Line 37: should end with a period
-Line 44: hinges on robust methodology (see below)

Introduction:

-Makes a valid argument for the need to emphasize the teaching of anatomy in residency, and highlights the lack of existing step-by-step instructions in clay-based modeling
-Would revise English language in multiple sections (e.g. lines 60-63)

Methods:

-Detailed presentation of necessary components both in text and table
-Could eliminate lines 95-98 as "without personal identifiers" suffices
-There are 3 major components on which the results hinge: the pelvic model itself, a knowledge questionnaire, and a confidence survey. To draw the conclusion that was made in abstract line 44, all of these tools need to have robust validity evidence to back them up. For example, how were the knowledge questions developed? Was a group of experts involved? Was a Delphi method used? Were they tested on groups expected to have varying levels of pelvic anatomy knowledge to show that they differentiate individuals by level of expected knowledge?
-Would increase the n by inviting other programs to participate in the study
-I would include the text describing the steps for building the model under the figure, and cut lines 106 - 126
-The statistical tests that were performed seem appropriate for the data that was collected
-The photos are of great quality and essential to the methods

Results:

-Succinct summary of findings with appropriate accompanying figures

Discussion:

-Highlights the strengths of the model and activity, and mentions some of the limitations such as sample size
-Could expand on limitations as noted above under methods

STATISTICS EDITOR COMMENTS:

Results, Tables: The various entries of n(%) should round the %s to the nearest integer %, not cite to 0.1% precision, given the small sample size. Also, given the sample sizes, the estimation of IQRs is very imprecise. Should simply format as median(range). Also, please round the medians and ranges to nearest integer, not to 0.01 precision.

lines 36-37, 137-139: Unfortunately, the comparison of pre vs post tests was statistically NS, in part due to the small sample size. Since this was included in the analysis, need to explicitly state it in the results and conclusion of the Abstract. That is, the use of the model increased confidence significantly, but not objective knowledge, as measured by the pre and

post test scores.

EDITORIAL OFFICE COMMENTS:

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2. When you submit your revised manuscript, please make the following edits to ensure your submission contains the required information that was previously omitted for the initial double-blind peer review:
* Include your title page information in the main manuscript file. The title page should appear as the first page of the document. Add any previously omitted Acknowledgements (ie, meeting presentations, preprint DOIs, assistance from non-byline authors).
* Funding information (ie, grant numbers or industry support statements) should be disclosed on the title page and in the body text. For industry-sponsored studies, the Role of the Funding Source section should be included in the body text of the manuscript.
* Include clinical trial registration numbers, PROSPERO registration numbers, or URLs at the end of the abstract (if applicable).
* Name the IRB or Ethics Committee institution in the Methods section (if applicable).
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If you are the lead author, please include this statement in your cover letter. If the lead author is a different person, please ask him/her to submit the signed transparency declaration to you. This document may be uploaded with your submission in Editorial Manager.

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 data definitions at https://www.acog.org/practice-management/health-it-and-clinical-informatics/revitalize-obstetrics-data-definitions and the gynecology data definitions at https://www.acog.org/practice-management/health-it-and-clinical-

informatics/revitalize-gynecology-data-definitions. If use of the reVITALize definitions is problematic, please discuss this in your point-by-point response to this letter.

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* If all or part of the paper was presented at the Annual Clinical and Scientific Meeting of the American College of Obstetricians and Gynecologists or at any other organizational meeting, that presentation should be noted (include the exact dates and location of the meeting).
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9. 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.

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11. In your Abstract, manuscript Results sections, and tables, the preferred citation should be in terms of an effect size, such as odds ratio or relative risk or the mean difference of a variable between two groups, expressed with appropriate confidence intervals. When such syntax is used, the P value has only secondary importance and often can be omitted or noted as footnotes in a Table format. Putting the results in the form of an effect size makes the result of the statistical test more clinically relevant and gives better context than citing P values alone.

If appropriate, please include number needed to treat for benefits (NNTb) or harm (NNTh). When comparing two procedures, please express the outcome of the comparison in U.S. dollar amounts.

Please standardize the presentation of your data throughout the manuscript submission. For P values, do not exceed three decimal places (for example, "P = .001"). For percentages, do not exceed one decimal place (for example, 11.1%").

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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 Jan 28, 2022, we will assume you wish to withdraw the manuscript from further consideration.

Sincerely,

John O. Schorge, MD
Deputy Editor, Gynecology

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