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- Comments from the reviewers and editors (email to author requesting revisions)
- Response from the author (cover letter submitted with revised manuscript)*
- Email correspondence between the editorial office and the authors*

**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: Jul 18, 2018
To: "Seri Anne Link Anderson" [redacted]
From: "The Green Journal" em@greenjournal.org
Subject: Your Submission ONG-18-1117

RE: Manuscript Number ONG-18-1117

Two Educational Posters' Impact on Contraceptive Knowledge and Intentions: A Randomized Control Trial

Dear Dr. Anderson:

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).

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 Aug 08, 2018, we will assume you wish to withdraw the manuscript from further consideration.

REVIEWER COMMENTS:

Reviewer #1:
Comments to Author

Manuscript #: ONG-18-1117

Title: Two Educational Posters' Impact on Contraceptive Knowledge and Intentions: A Randomized Control Trial

Overview:

This is a randomized, control trial to determine the comprehension and increased understanding of the effectiveness of various contraceptive options. This is a simple concept, showing that patient comprehension of a patient-centered poster surpassed that of the CDC's standard educational contraceptive effectiveness poster. Several limitations should be addressed:

1. From where was this population recruited? Was it a contraceptive clinic, a general ob/gyn clinic, or combination thereof?

2. This appears to be a relatively educated and wealthy population, with limited diversity. How does this impact the results and applicability to other populations?

3. What is the clinical significance of a 3% difference, between 70% and 73% for the final Contraceptive Knowledge Score?

Abstract:

4. Line 44. 3%... Is this clinically significant?

Materials and Methods:

5. Line 81. How did you control for educational levels, career or job backgrounds, etc?

6. Lines 87-88. Where were they selected? Was it a contraceptive clinic, general ob/gyn clinic, etc.? Please clarify.

7. Lines 96-97. This is incredibly low reimbursement for a study. Did this impact who participated in the study? How many patients were asked to participate vs how many actually participated? You indicate that no patients declined to participate. This is almost unheard of. Any explanations?

8. Lines 146-147. This is a compound question that could be confusing to persons taking the survey, depending on the answer options. It would have been much better to use a question with one or the other options. Is this what was done? If not, this could impact patient response.

Results:

9. Lines 184-185. The time period of enrollment should be stated in the Methods.

10. Lines 207-210. Although statistically better than the CDC poster, is this clinically significant?

Discussion:

11. Lines 236-266. Again, from what population or clinics were these patients accessed or selected? Was this a general ob/gyn population or patients at a contraception clinic?

Tables and Figures:

12. Table 1. One must ask if these results would be applicable to another population. These are primarily white, well-educated, and relatively wealthy patients.

13. Table 1. You state the Mean age of sex for the CDC poster was 17.5, with a range of 7 to 33. Is age 7 correct?

14. Table 1. Your data from the NSFG states the mean age was 17.1 years, with a range of 3 to 40. Is age 3 correct?

15. Table 1. "Cannot Use Some Contraceptives for Health." How did you determine what type of contraceptive the patients needed to avoid? This is critical in the response to the type of contraception planned in the next year.

16. Table 2. Although statistically different, is a 3% difference clinically significant? Please comment and express this as a limitation to the study.

17. Figure 2. The last section, Long-lasting and surgical methods, should be revised. According to your stated effectiveness, the Implant and IUD are both more effective that surgical sterilization. Thus, they should be "listed" after (or under) the surgical methods, as they are "Most Effective."

Reviewer #2: Given the ongoing underutilization of highly effective contraceptives, particularly among lower SES women, the topic of simple ways to increase knowledge regarding contraceptive efficacy is timely and welcome.

The methods used by the authors, and the presentation and discussion of their results is clear and high quality.

Reviewer #3:

1) Increasing contraceptive knowledge and use of more effective contraceptive methods is an important goal and this study with an improved educational poster is a great step in the right direction towards this goal

2) Line 22: "increase the effectiveness of intended contraceptive methods". Your study does not change the effectiveness of any contraceptive method. It changes the likelihood that participates will use a more effective method. This should be changed throughout the paper - Line 46, Line 220

3) Line 28: stating that the new poster is "reducing risk factors" is a bit broad. You are reducing their risk by potentially increasing use of effective contraceptives

4) Line 37-38: "Within and between group differences were compared among equally balanced groups." This sentence doesn't make sense to me - how can groups be balanced within a group. How were groups balanced? Please clarify this sentence.

5) Line 76: comparing "perceived pregnancy risk" between the two posters is not possible/reasonable as the CDC poster does not address this issue. You could say that in addition to addressing knowledge and effectiveness that your poster added an element to address perceived risk. You can compare this to baseline but I would be reluctant to compare to the other poster on this point. (same pint Line 106)

6) Line 105: "method used in next year" is actually method intended to be used in next year. You don't have data on what method they actually end up using.

7) Line 145-160: did you asses if participants had ever had an unintended pregnancy in addition to a pregnancy scare?

8) Line 176-181: lacking statistical significance values

9) Line 185: how was the target enrollment number reached and what was it?

10) Line 186: NSFG - define this as it is the first instance of using the abbreviation

11) Line 207: You reference your "main hypothesis." I would encourage you to explicitly state your main hypotheses in your introduction. They are implied throughout but not spelled out in the beginning of the paper.

12) Line 236-242: Consider moving some of this info into the introduction section as the data about Cochrane reviews that show effectiveness os decision aids would validate why you chose to do your study to begin with

13) Line 246: what does "more proximal" mean in this context.

14) Tables: consider reducing the info in Table 1, it is quite large. Table 2 lacks statistical values proving or disproving significance of changes. Table 4 & 5- the comparison of means column stating "Patient-center preferred" seems like it should read "performed better" s you measured an outcome not their preference between posters her.

15) Overall, I feel that this study was well designed and presents a new tool that could be used effectively in patient education. I think that while the likelihood of choosing a more effective method does not change in a statistically significant way there is independent value in improving contraceptive knowledge and having a poster that is more preferred by patients. However, the paper needs additional editing to read more clearly and the statistics need to be cleaned up to reflect significance of differences and more clearly show how they support your conclusions.

STATISTICAL EDITOR'S COMMENTS:

1. lines 45-46: That is an incomplete statement, given the CIs span from as low as 1 per 100 to as many as 17 per 100.

2. lines 176-181: Unless I am misintepreting Table 4, there were 3 primary outcomes comparing the two posters:(1) difference in mean change in contraceptive knowledge, (2) difference in accuracy of perceived pregnancy risk and (3) difference in effectiveness of the most likely contraceptive method. Only the first of those was found to be significant at the pre-specified inference threshold, the others were NS. So, the conclusions should reflect those findings, ie, two were NS one was significant. The conclusions in Abstract and Results should emphasize those findings, ie, the only significant primary outcome was an increase in contraceptive knowledge of the new poster compared to the CDC poster. The other findings (pre and post testing for each poster cohort), although they included some significant findings, were not the primary outcomes, were not part of the power analysis and should be cited separately as secondary outcomes.

3. Table 2: Need to cite format as footnote, e.g., n(%) and mean±SD, if that is correct.Should explain in footnote the meaning of "Mean most likely method score".

4. Table 3: Need to cite format n(%)

5. Tables 4,5: Need to more clearly explain the terminology of Percent change and Percentage point change. Are these meant to represent relative and absolute changes? Also that the formatting of *, ** and *** represent comparisons within each group (CDC poster; new poster) vs their "before" scores, while the "comparison of means" are comparisons between the groups, correct?

EDITORIAL OFFICE COMMENTS:

1. 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:
1. OPT-IN: Yes, please publish my response letter and subsequent email correspondence related to author queries.
2. OPT-OUT: No, please do not publish my response letter and subsequent email correspondence related to author queries.

2. Tables, figures, and supplemental digital content should be original. The use of borrowed material (eg, lengthy direct quotations, tables, figures, or videos) is discouraged, but should it be considered essential, written permission of the copyright holder must be obtained. Permission is also required for material that has been adapted or modified from another source. Both print and electronic (online) rights must be obtained from the holder of the copyright (often the publisher, not the author), and credit to the original source must be included in your manuscript. Many publishers now

have online systems for submitting permissions request; please consult the publisher directly for more information. In addition, you must list any material included in your submission that is not original or that you are not able to transfer copyright for in the space provided under I.B on the first page of the author agreement form.

3. 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 will be transitioning as much as possible to use of the reVITALize definitions, and we encourage authors to familiarize themselves with them. The obstetric data definitions are available at http://links.lww.com/AOG/A515, and the gynecology data definitions are available at http://links.lww.com/AOG/A935.

4. Because of space limitations, it is important that your revised manuscript adhere to the following length restrictions by manuscript type: Original Research reports should not exceed 22 typed, double-spaced pages (5,500 words). Stated page limits include all numbered pages in a manuscript (i.e., title page, précis, abstract, text, references, tables, boxes, figure legends, and appendixes).

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

5. Specific rules govern the use of acknowledgments in the journal. Please edit your acknowledgments or provide more information in accordance with the following guidelines:

* All financial support of the study must be acknowledged.
* Any and all manuscript preparation assistance, including but not limited to topic development, data collection, analysis, writing, or editorial assistance, must be disclosed in the acknowledgments. Such acknowledgments must identify the entities that provided and paid for this assistance, whether directly or indirectly.
* All persons who contributed to the work reported in the manuscript, but not sufficiently to be authors, must be acknowledged. Written permission must be obtained from all individuals named in the acknowledgments, as readers may infer their endorsement of the data and conclusions. Please note that your signature on the journal's author agreement form verifies that permission has been obtained from all named persons.
* 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).

6. 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.

In addition, the abstract length should follow journal guidelines. The word limits for different article types are as follows: Original Research articles, 300 words. Please provide a word count.

7. 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.

8. 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.

9. 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.

10. The Journal's Production Editor had the following comments on the figures in your manuscript:

"Figure 1: Since this graphic was adapted from the WHO and a study in Contraception, please confirm that no permission is needed to reuse.
Figure 2: Is this graphic original to the manuscript?
Figure 3: Please confirm n values (2930-1988 does not equal 990)"

When you submit your revision, art saved in a digital format should accompany it. If your figure was created in Microsoft Word, Microsoft Excel, or Microsoft PowerPoint formats, please submit your original source file. Image files should not be copied and pasted into Microsoft Word or Microsoft PowerPoint.

When you submit your revision, art saved in a digital format should accompany it. Please upload each figure as a separate file to Editorial Manager (do not embed the figure in your manuscript file).

If the figures were created using a statistical program (eg, STATA, SPSS, SAS), please submit PDF or EPS files generated directly from the statistical program.

Figures should be saved as high-resolution TIFF files. The minimum requirements for resolution are 300 dpi for color or black and white photographs, and 600 dpi for images containing a photograph with text labeling or thin lines.

Figures should be no smaller than the journal column size of 3 1/4 inches. Art that is low resolution, digitized, adapted from slides, or downloaded from the Internet may not reproduce. Refer to the journal printer's web site (http://cjs.cadmus.com/da/index.asp) for more direction on digital art preparation.

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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, that each author has given approval to the final form of the revision, and that the agreement form signed by each author and submitted with the initial version remains valid.

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 Aug 08, 2018, we will assume you wish to withdraw the manuscript from further consideration.

Sincerely,

The Editors of Obstetrics & Gynecology

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

If you would like your personal information to be removed from the database, please contact the publication office.

Seri Anderson
University of North Carolina at Chapel Hill
1105E McGavran-Greenberg Hall, CB #7411
Chapel Hill, NC 27599-7411

Dr. Nancy Chescheir
Editor-in-Chief
Obstetrics & Gynecology

June 4, 2018

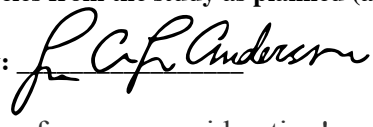
Dear Dr. Chescheir and Editorial Staff:

I am pleased to resubmit an original research article entitled "Two educational posters' impact on contraceptive knowledge and intentions: A randomized control trial" for consideration for publication in *Obstetrics & Gynecology*. Please see below my signature for a point-by-point review of the changes that have been made at the request of the reviewers.

There are no prior publications of this work or submissions with any overlapping information. The work is not and will not be submitted to any other journal while under consideration by *Obstetrics & Gynecology*. The authors have no conflicts of interest to disclose. All authors listed on this publication are aware they are listed, have reviewed and approved the final manuscript, and accept responsibility for the content herein.

This study has been registered at ClinicalTrials.gov, www.clinicaltrials.gov, under study number NCT03372369. It has been approved by the University of North Carolina at Chapel Hill Institutional Review Board with IRB number 17-2955. The CONSORT checklist is attached.

The lead author affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

Signed by: 

Thank you for your consideration!

Sincerely,
Seri A.L. Anderson, PhD
Corresponding Author
[redacted]

REVIEWER COMMENTS:

Reviewer #1:

Comments on Recruitment Location:
1. From where was this population recruited? Was it a contraceptive clinic, a general ob/gyn clinic, or combination thereof?

6. Lines 87-88. Where were they selected? Was it a contraceptive clinic, general ob/gyn clinic, etc.? Please clarify.

11. Lines 236-266. Again, from what population or clinics were these patients accessed or selected? Was this a general ob/gyn population or patients at a contraception clinic?

Thank for raising this issue. The study recruits participants through Amazon Mechanical Turk, an online service where people can complete surveys for small amounts of money. The study population only included US residents and they needed to have access to the internet to use Amazon Mechanical Turk. In other words, they were recruited online rather than from a physical location.

We have added a clarification that this study sample was recruited online to the methods section in lines 172, 177, and 178, as well as the limitations section of the discussion in lines 441-443.

Comments on Generalizability:
2. This appears to be a relatively educated and wealthy population, with limited diversity. How does this impact the results and applicability to other populations?

12. Table 1. One must ask if these results would be applicable to another population. These are primarily white, well-educated, and relatively wealthy patients.

This is an interesting observation. As noted in lines 295-300, we believe our results are likely only generalizable to the internet-using population that meets our eligibility criteria. Because the population is relatively educated, it is possible that they could process the information in the posters more easily than a less educated population. We have added this limitation to our discussion section in lines 443-444 and 449-474.

However, we feel there is some evidence that these results would be similar to those in a low-income, less educated, or more diverse sample. First, in our pre-specified subgroup analyses we did not find statistically significantly different results among low numeracy women. Second, in a previous study used to develop the poster [1] we specifically recruited minority and less numerate women to ensure that the poster was understandable to these populations.

Comments on Clinical Significance:
3. What is the clinical significance of a 3% difference, between 70% and 73% for the

final Contraceptive Knowledge Score?

4. Line 44. 3%... Is this clinically significant?

10. Lines 207-210. Although statistically better than the CDC poster, is this clinically significant?

16. Table 2. Although statistically different, is a 3% difference clinically significant? Please comment and express this as a limitation to the study.

Thank you for raising this important question. We agree that a limitation of our study is that we did not measure changes in contraceptive behavior and so cannot comment on the clinical significance of the 3% observed difference between the CDC and patient-centered posters. Furthermore, we cannot turn to the published literature to help us determine whether this difference might be clinically significant because a systematic review has found that the past measurement of contraceptive knowledge by researchers often used measures that were inconsistent and unvalidated [2]. Because of this, we used a recently developed measure, the Contraceptive Knowledge Assessment, which has been scientifically validated [3], but not yet tested to see how differences in scores translate to differences in contraceptive practice.

However, this study does lay the groundwork for future research measuring the impact of the patient-centered poster on women's behavior in a clinical setting. Furthermore, the fundamental relationship between increased contraceptive knowledge and improved contraception is well-documented [4, 5], including in our study. We found that contraceptive knowledge was statistically significantly associated with contraceptive effectiveness at baseline (beta = 0.04, $p<0.000$, 95% CI 0.03-0.06) while controlling for age, race, education, income, parity, marital status, and pregnancy intentions.

In light of your comments, we have expanded the discussion of this limitation in the Discussion on lines 475-478.

Materials and Methods:

5. Line 81. How did you control for educational levels, career or job backgrounds, etc?

We did not control for educational levels, career or job backgrounds because there were no statistically significant differences between the two randomized groups in terms of educational level or numeracy (see lines 284-286). The averages reported in line 163-164 are simple averages.

7. Lines 96-97. This is incredibly low reimbursement for a study. Did this impact who participated in the study? How many patients were asked to participate vs how many actually participated? You indicate that no patients declined to participate. This is almost

unheard of. Any explanations?

Thank you for the opportunity to explain this methodological issue. This reimbursement is low for a study but relatively high for a survey posted on Amazon Mechanical Turk, where the median pay is $1.38 per hour [6]. Amazon Mechanical Turk caters to the business community, rather than researchers, which may explain the lower rates paid on the platform.

On Amazon Mechanical Turk, surveys are posted with a brief description to a list and workers can choose which surveys to complete. We do not know the number of workers who saw the survey and chose not to complete it; however, we do know the number who began the survey and did not finish it (19 out of 495 in CDC group, 16 out of 495 in patient-centered poster group). We also know how many eligible women did not complete a survey before the study was concluded (n = 225, or 18.5% of those eligible). We have revised the CONSORT diagram to more clearly highlight this second number, which we believe is the best estimate we can provide of the number of participants who were asked to participate in the study and chose not to.

8. Lines 146-147. This is a compound question that could be confusing to persons taking the survey, depending on the answer options. It would have been much better to use a question with one or the other options. Is this what was done? If not, this could impact patient response.

The full text of the question read:
Are you currently trying to get pregnant or avoid pregnancy?

- *Trying to get pregnant*
- *Wouldn't mind getting pregnant*
- *Wouldn't mind avoiding pregnancy*
- *Trying to avoid pregnancy*
- *Don't know*

Women could select only one response. The wording of this question was taken directly from the following source: Schwarz EB, Lohr PA, Gold MA, Gerbert B. Prevalence and correlates of ambivalence towards pregnancy among nonpregnant women. *Contraception*. 2007; 75:305-10. We have added the answer options to the text in lines 258-260.

Results:

9. Lines 184-185. The time period of enrollment should be stated in the Methods.

Thank you for this feedback. According to the journal's guidelines (https://journals.lww.com/greenjournal/Pages/instructionsforauthors.aspx#original_research), "The Results should begin with the dates of enrollment to the study, a description of demographics, and the primary outcome analysis." For consistency with these guidelines, we have not moved the time period of enrollment to the Methods section.

Tables and Figures:

13. Table 1. You state the Mean age of sex for the CDC poster was 17.5, with a range of 7 to 33. Is age 7 correct?
Table 1. Your data from the NSFG states the mean age was 17.1 years, with a range of 3 to 40. Is age 3 correct?

Yes, these are both correct, and likely reflect women reporting an age at first sex for a forced sexual encounter.

15. Table 1. "Cannot Use Some Contraceptives for Health." How did you determine what type of contraceptive the patients needed to avoid? This is critical in the response to the type of contraception planned in the next year.

This was measured using two questions. First, we asked the yes or no question: "Are there any types of birth control that you cannot use for health or safety reasons?" If the woman responded "Yes" to this question, she was asked the follow-up question: "If yes, which forms of birth control are you prevented from using? Mark all that apply." Her options included all of the methods except withdrawal and no method.

This information has been added to the text in lines 270-275.

17. Figure 2. The last section, Long-lasting and surgical methods, should be revised. According to your stated effectiveness, the Implant and IUD are both more effective that surgical sterilization. Thus, they should be "listed" after (or under) the surgical methods, as they are "Most Effective."

Thank you for this suggestion. For this manuscript, we would like the figure to show the poster as it was tested in the trial so readers can see exactly the intervention we tested. However, we are providing the CDC a summary of our findings, and we will include your suggested revision to our patient-centered poster in the final version.

Reviewer #3:

2) Line 22: "increase the effectiveness of intended contraceptive methods". Your study does not change the effectiveness of any contraceptive method. It changes the likelihood that participates will use a more effective method. This should be changed throughout the paper - Line 46, Line 220

Thank you for this opportunity to clarify. We have changed this phrase in the précis so it reads as follows:
"Both posters educate women about contraception and increase the number of women intending to use contraception and highly effective contraceptives; the patient-centered poster more effectively educates women about contraception."

Elsewhere we have replaced the phrase “the effectiveness of intended contraceptive methods” with the phrase “score measuring the effectiveness of intended contraceptive”. In particular we made changes in lines 31-32, line 53, and 386-387, as you requested.

3) Line 28: stating that the new poster is "reducing risk factors" is a bit broad. You are reducing their risk by potentially increasing use of effective contraceptives

Thank you for this suggestion. We have changed lines 37-39 to read: “Objective: To test the impact of the Centers for Disease Control and Prevention’s (CDC) contraceptive effectiveness poster and a new, patient-centered poster on factors affecting the likelihood of using effective contraceptives.”

4) Line 37-38: "Within and between group differences were compared among equally balanced groups." This sentence doesn't make sense to me - how can groups be balanced within a group. How were groups balanced? Please clarify this sentence.

Thank you for pointing out that this sentence needs clarification. The groups were balanced in the sense that we used a randomized control trial design to assign equal numbers of participants to each group. We have revised this sentence to read: “Within and between group differences were compared for the two randomized groups.”

5) Line 76: comparing "perceived pregnancy risk" between the two posters is not possible/reasonable as the CDC poster does not address this issue. You could say that in addition to addressing knowledge and effectiveness that your poster added an element to address perceived risk. You can compare this to baseline but I would be reluctant to compare to the other poster on this point. (same pint Line 106)

Thank you for this suggestion. While the CDC poster does not address the risk of pregnancy with unprotected sex, we hypothesized that it could change women’s perceived risk of pregnancy by correcting misconceptions about the effectiveness or correct use of contraception. For example, a woman might have believed she was at low risk of pregnancy in the next year if she used condoms because the packaging said they are 98% effective. However, viewing the CDC poster might have made her realize that her risk of pregnancy is actually moderate because condoms are less than 98% effective when used typically.

6) Line 105: "method used in next year" is actually method intended to be used in next year. You don't have data on what method they actually end up using.

Thank you for this suggestion. We have changed this to read “most likely method intended to be used” throughout the manuscript, including on lines 242, 387, 401, and Table 2.

7) Line 145-160: did you asses if participants had ever had an unintended pregnancy in addition to a pregnancy scare?

We did not assess whether participants had ever had an unintended pregnancy. We did assess women's parity and whether they had ever been pregnant.

8) Line 176-181: lacking statistical significance values

The statistical significance value for all of these calculations is 0.01, our predetermined threshold for statistical significance, as implied by the fact that alpha is 0.01.

9) Line 185: how was the target enrollment number reached and what was it?

We calculated our target enrollment number based on our power calculation. For a description of this calculation, see below:

We use a power of 95%. We use an alpha of 1% because we test three primary hypotheses. The average score on the CKA is 36% correct [3]. The WHO fact sheet adapted by the CDC improved knowledge of Pill effectiveness by 8 percentage points (PP) [7], so we assume a mean score of 44% for the CDC sheet and 52% for the new sheet. For a SD of 0.18 [3], we need at least N=180 participants.

We assume women will be willing to use the same contraceptive methods at baseline as are used by US women, producing a baseline mean score of 2.0 [8]. After exposure, we assume a mean score of 2.15 for the new fact sheet and 2.05 for the CDC sheet, as in Antonishak et al. [9]. For a conservative SD of 0.35 [9], we need at least N=435 participants.

Finally, we test whether mean perceived pregnancy risk increases more for the new fact sheet than the CDC sheet. Because the CDC poster does not include any information about the likelihood of pregnancy with unprotected sex, we anticipate no change in perceived pregnancy risk for the CDC poster. For the new poster, we anticipate a 5% increase in mean perceived pregnancy risk, or an average score of 0.21. For a standard deviation of 0.05, we need at least N=888 participants. We would need to survey N=977 participants to account for at least 10% of responses being excluded for missing data [10].

Our target enrollment was N=977, we enrolled N = 990 women, and we analyzed data from N = 936.

10) Line 186: NSFG - define this as it is the first instance of using the abbreviation

Thank you for pointing this out. We have made the suggested change.

11) Line 207: You reference your "main hypothesis." I would encourage you to explicitly state your main hypotheses in your introduction. They are implied throughout but not spelled out in the beginning of the paper.

This is a great suggestion. We have revised our introduction to explicitly state the main hypotheses in lines 127-130. It now reads:

"Our main hypotheses are that women who view the patient-centered poster will immediately show greater increases in their contraceptive knowledge, greater accuracy in their perceived pregnancy risk, and greater effectiveness in their contraceptive intentions than women who view the CDC poster."

12) Line 236-242: Consider moving some of this info into the introduction section as the data about Cochrane reviews that show effectiveness of decision aids would validate why you chose to do your study to begin with

Thank you for this suggestion. We have moved this material as you suggested and reorganized the introduction (see lines 114-116 in particular).

13) Line 246: what does "more proximal" mean in this context.

In this context, we mean "further along the causal pathway". To clarify this point, we have revised the sentence to read:
"Our study also found significant impacts on the effectiveness of women's intended contraceptive method, which the Health Belief Model [11] suggests is likely to be more strongly associated with contraceptive behavior than contraceptive knowledge."

14) Tables: consider reducing the info in Table 1, it is quite large. Table 2 lacks statistical values proving or disproving significance of changes. Table 4 & 5- the comparison of means column stating "Patient-center preferred" seems like it should read "performed better" s you measured an outcome not their preference between posters her.

Thank you for your comments on the tables.

Table 1: We have removed the following variables from the table: sexual relationship status, sex of sex partners, "cannot use some contraceptives due to cost", and ever pregnant. We have removed the missing category from all variables because it never had a cell size of greater than 10.

We have also combined the following race/ethnic categories: Asian, Pacific Islander, American Indian or Alaskan Native, and Some Other Race. We combined the following health insurance categories: Indian Health Service, Don't Know, Union, School, and Active Duty Military. We also have reduced the number of income categories at the ends of the range.

We record the descriptive data from the removed variables below for interested readers.

Variable	**CDC Poster (N=466)***	**Patient-Centered Poster (N = 470)**	**Total (N = 936)**	**NSFG 2013-2015 (N = 3,021)**
Sexual Relationship Status				
Dating exclusively	348 (75%)	380 (81%)	728 (78%)	94%

Dating frequently, but not exclusively	31 (7%)	17 (4%)	48 (5%)	
Dating once in a while	24 (5%)	22 (5%)	46 (5%)	1%
Only having sex	43 (9%)	34 (7%)	77 (8%)	
Not in a relationship	14 (3%)	14 (3%)	28 (3%)	5%
Missing	* (<1%)	* (<1%)	* (<1%)	
Sex of Sex Partners				
Exclusively male	378 (81%)	360 (77%)	738 (79%)	98%
Male and female	64 (14%)	86 (18%)	150 (16%)	2%
Exclusively female	0 (0%)	0 (0%)	0 (0%)	0%
Missing	24 (5%)	24 (5%)	48 (5%)	
Cannot Use Some Contraceptives Due to Cost				
Yes	122 (26%)	97 (21%)	181 (19%)	
No	80 (17%)	101 (21%)	536 (57%)	
Missing	264 (57%)	272 (58%)	219 (23%)	
Ever Pregnant				
Yes	284 (61%)	276 (59%)	560 (60%)	72%
No	181 (39%)	192 (41%)	373 (40%)	28%

Table 2: We chose to separately report statistical tests of our hypotheses (Table 3) and descriptive results for our outcome variables and variables used to construct the outcomes (Table 2). You can find the statistical significance of changes in Table 3. To clarify this, we have edited the title of Table 2 to read: **"Pre- and Post-Exposure Descriptive Statistics for Outcomes".**

Tables 4 and 5: These have been combined and become Table 3. We have made your suggested change to the comparison of means column.

STATISTICAL EDITOR'S COMMENTS:

1. lines 45-46: That is an incomplete statement, given the CIs span from as low as 1 per 100 to as many as 17 per 100.

Thank you for this observation. We have revised this sentence in light of this comment to read:
"This is equivalent to 1 to 17 out of every 100 women who viewed a poster changing their intentions in favor of a more effective contraceptive."
We have revised lines 389-390 as well.

2. lines 176-181: Unless I am misintepreting Table 4, there were 3 primary outcomes comparing the two posters:(1) difference in mean change in contraceptive knowledge, (2) difference in accuracy of perceived pregnancy risk and (3) difference in effectiveness of the most likely contraceptive method. Only the first of those was found to be significant at the pre-specified inference threshold, the others were NS. So, the conclusions should reflect those findings, ie, two were NS one was significant. The conclusions in Abstract

and Results should emphasize those findings, ie, the only significant primary outcome was an increase in contraceptive knowledge of the new poster compared to the CDC poster. The other findings (pre and post testing for each poster cohort), although they included some significant findings, were not the primary outcomes, were not part of the power analysis and should be cited separately as secondary outcomes.

Thank you for the excellent feedback. We have made a number of revisions to the Abstract section to clarify our primary vs. secondary results (see lines 50-51 and 100-102). We also made changes to the Results (see line 340-342), and Discussion section in line with your suggestions. For example, the opening lines of the Discussion now read: "Out of our three primary outcomes, we found that the patient-centered poster was only significantly more effective than the CDC poster at improving contraceptive knowledge. There were no statistically significant differences between the CDC and patient-centered posters' effects on perceived risk of pregnancy and the score measuring effectiveness of the most likely contraceptive intended for the next year."

3. Table 2: Need to cite format as footnote, e.g., n(%) and mean±SD, if that is correct.Should explain in footnote the meaning of "Mean most likely method score".

Thank you for pointing this out. We have added these footnotes.

We have not added a footnote explaining the meaning of "mean most likely method score" because this information appears in the text in lines 210-243. However, to clarify that this is just a scored version of the categorical variable "most likely method intended in next year", we have revised the heading to read "mean most likely method intended in next year score".

4. Table 3: Need to cite format n(%)

Thank you for pointing this out. We have added this footnote.

5. Tables 4,5: Need to more clearly explain the terminology of Percent change and Percentage point change. Are these meant to represent relative and absolute changes? Also that the formatting of *, ** and *** represent comparisons within each group (CDC poster; new poster) vs their "before" scores, while the "comparison of means" are comparisons between the groups, correct?

Thank you for raising these questions. To clarify the meaning of percent and percentage point change we have removed "percent change" and revised "percentage point change" to read "absolute percentage point" change.

To clarify the different comparisons we are testing, we have made a number of changes to the headings. We have changed the heading for the CDC column to read "Comparison Pre and Post for CDC Poster" and the patient-centered poster to read "Comparison Pre and Post for Patient-Centered Poster". We have also changed the heading for "comparison of means" to "comparison between posters".

EDITORIAL OFFICE COMMENTS:

1. 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:

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

OPT-IN

2. Tables, figures, and supplemental digital content should be original. The use of borrowed material (eg, lengthy direct quotations, tables, figures, or videos) is discouraged, but should it be considered essential, written permission of the copyright holder must be obtained. Permission is also required for material that has been adapted or modified from another source. Both print and electronic (online) rights must be obtained from the holder of the copyright (often the publisher, not the author), and credit to the original source must be included in your manuscript. Many publishers now have online systems for submitting permissions request; please consult the publisher directly for more information. In addition, you must list any material included in your submission that is not original or that you are not able to transfer copyright for in the space provided under I.B on the first page of the author agreement form.

For Figure 1, we have contacted the copyright holders (WHO and Johns Hopkins) and are awaiting their response to our request to reprint the CDC poster. Until we receive their permission, we have instead chosen to provide a reference to the online location of the CDC's poster. If the CDC poster is revised in future years, interested individuals can contact the corresponding author to request a copy of the tested version of the poster.

3. 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 will be transitioning as much as possible to use of the reVITALize definitions, and we encourage authors to familiarize themselves with them. The obstetric data definitions are available at http://links.lww.com/AOG/A515, and the gynecology data definitions are available at http://links.lww.com/AOG/A935.

Thank you for providing this resource. We have corrected our use of "contraception/contraceptive" and "parity". We've replaced "parity" with "number of

live births" because we believe that more accurately reflects the question women were responding to than the reVITALize definition of parity.

4. Because of space limitations, it is important that your revised manuscript adhere to the following length restrictions by manuscript type: Original Research reports should not exceed 22 typed, double-spaced pages (5,500 words). Stated page limits include all numbered pages in a manuscript (i.e., title page, précis, abstract, text, references, tables, boxes, figure legends, and appendixes).

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

We have revised the manuscript to adhere to the length and word limits.

5. Specific rules govern the use of acknowledgments in the journal. Please edit your acknowledgments or provide more information in accordance with the following guidelines:

* All financial support of the study must be acknowledged.
* Any and all manuscript preparation assistance, including but not limited to topic development, data collection, analysis, writing, or editorial assistance, must be disclosed in the acknowledgments. Such acknowledgments must identify the entities that provided and paid for this assistance, whether directly or indirectly.
* All persons who contributed to the work reported in the manuscript, but not sufficiently to be authors, must be acknowledged. Written permission must be obtained from all individuals named in the acknowledgments, as readers may infer their endorsement of the data and conclusions. Please note that your signature on the journal's author agreement form verifies that permission has been obtained from all named persons.
* 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).

We have copied the financial disclosure information to the Acknowledgements section. The other guidelines have been reviewed and we do not need to add any additional material to the Acknowledgements.

6. 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.

In addition, the abstract length should follow journal guidelines. The word limits for different article types are as follows: Original Research articles, 300 words. Please provide a word count.

The word count of the abstract is 300 words.

7. 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.

We have reviewed the abbreviation and acronym guidelines and revised our use of "US".

8. 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.

We have removed all instances of the virgule.

9. 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.

10. The Journal's Production Editor had the following comments on the figures in your manuscript:

"Figure 1: Since this graphic was adapted from the WHO and a study in Contraception, please confirm that no permission is needed to reuse.
Figure 2: Is this graphic original to the manuscript?
Figure 3: Please confirm n values (2930-1988 does not equal 990)"

Figure 1: We have contacted the copyright holders (WHO and Johns Hopkins) and are awaiting their response to our request to reprint the CDC poster. Until we receive their permission, we have instead chosen to provide a reference to the online location of the CDC's poster. If the CDC poster is revised in future years, interested individuals can contact the corresponding author to request a copy of the tested version of the poster.

Figure 2: This graphic is original to the manuscript; however, an alternative version is appearing in *Contraception*.

Figure 3: These numbers were incorrect. We have clarified the categories and revised the numbers so that they correctly reflect what occurred in the study.

When you submit your revision, art saved in a digital format should accompany it. If your figure was created in Microsoft Word, Microsoft Excel, or Microsoft PowerPoint formats, please submit your original source file. Image files should not be copied and pasted into Microsoft Word or Microsoft PowerPoint.

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upload each figure as a separate file to Editorial Manager (do not embed the figure in your manuscript file).

If the figures were created using a statistical program (eg, STATA, SPSS, SAS), please submit PDF or EPS files generated directly from the statistical program.

Figures should be saved as high-resolution TIFF files. The minimum requirements for resolution are 300 dpi for color or black and white photographs, and 600 dpi for images containing a photograph with text labeling or thin lines.

Figures should be no smaller than the journal column size of 3 1/4 inches. Art that is low resolution, digitized, adapted from slides, or downloaded from the Internet may not reproduce. Refer to the journal printer's web site (http://cjs.cadmus.com/da/index.asp) for more direction on digital art preparation.

Figures have been submitted in their original file formats as requested.

***

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, that each author has given approval to the final form of the revision, and that the agreement form signed by each author and submitted with the initial version remains valid.

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 Aug 08, 2018, we will assume you wish to withdraw the manuscript from further consideration.

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Daniel Mosier

From: Seri Link [redacted]
Sent: Wednesday, August 29, 2018 12:21 PM
To: Daniel Mosier
Subject: Re: Manuscript Revisions: ONG-18-1117R1
Attachments: Scanned from a Xerox multifunction device(1).pdf; 18-1117R1 ms (8-29-18v3).docx; Halpern agreementform.pdf

Thank you for these edits. Our responses are below.

1. Please note the minor edits and deletions throughout. Please let us know if you disagree with any of these changes.

We agree with all these changes. Attached is the revised manuscript.

Please note that we are still working to get permission for some art used in Figure 1.

2. **LINE 3: Please provide a completed author agreement form for Dr. Wheeler using the latest version of our author agreement form, which can be found at http://edmgr.ovid.com/ong/accounts/agreementform.pdf. Note that both the "Authorship" and "Disclosure of Potential Conflicts of Interest" sections need to be completed, along with providing a signature. Please read the form carefully.**

Attached

3. LINE 4: Each author must meet four criteria to be an author. On the Author Agreement form, Dr. Halpern did not indicate that she gave final approval of the version to be published, nor did she indicate she agrees to be held accountable for all aspects of the work. If this was an error, submit a new form with the appropriate boxes checked. If this was not an error, remove the author's name from the byline and add it to the acknowledgment ("The authors thank...).

Attached

4. LINE 29: Too lengthy by insert that was in response to reviewer comment.

We agree to the revision.

5. LINE 45: Please express this p-value and all the p-values in your paper to no more than three decimal places.

We have changed all instances of $p<0.0001$ to $p<0.000$.

On Mon, Aug 27, 2018 at 9:40 AM Daniel Mosier <dmosier@greenjournal.org> wrote:

> Dear Dr. Anderson,

Thank you for submitting your revised manuscript. While the Editors did not have any major queries for you and your co-authors, please do the following:

1. Please note the minor edits and deletions throughout. Please let us know if you disagree with any of these changes.

2. LINE 3: Please provide a completed author agreement form for Dr. Wheeler using the latest version of our author agreement form, which can be found at http://edmgr.ovid.com/ong/accounts/agreementform.pdf. Note that **both** the "Authorship" and "Disclosure of Potential Conflicts of Interest" sections need to be completed, along with providing a signature. Please read the form carefully.

3. LINE 4: Each author must meet four criteria to be an author. On the Author Agreement form, Dr. Halpern did not indicate that she gave final approval of the version to be published, nor did she indicate she agrees to be held accountable for all aspects of the work. If this was an error, submit a new form with the appropriate boxes checked. If this was not an error, remove the author's name from the byline and add it to the acknowledgment ("The authors thank...).

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5. LINE 45: Please express this p-value and all the p-values in your paper to no more than three decimal places.

If you need to make additional changes, please use the attached version of the manuscript, leave the track changes on, and do not use the "Accept all Changes" function in Microsoft Word.

Please let me know if you have any questions. Your prompt response to these queries will be appreciated; please respond no later than COB on **Wednesday, August 29th.**

Sincerely,

-Daniel Mosier

Daniel Mosier

Editorial Assistant

Obstetrics & Gynecology

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From: [redacted]
To: Stephanie Casway
Subject: Re: O&G Figure Update: 18-1117
Date: Monday, October 15, 2018 9:23:35 AM

These look fantastic! No edits needed. Thank you so much for your hard work pulling the figure 1 legend together. It is a beast!

Seri

On Oct 15, 2018, at 9:17 AM, Stephanie Casway <SCasway@greenjournal.org> wrote:

> Good Morning Seri,
>
> Thank you so much for your patience while we worked through all the permission questions with your figures. Attached you will find a PDF of the legends and Figure 2. Please let me know if you have any edits to these by Tuesday, 10/16.
>
> Thanks again!
>
> Stephanie Casway, MA
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