OBSTETRICS & GYNECOLOGY

NOTICE: This document contains comments from the reviewers and editors generated during peer review of the initial manuscript submission and sent to the author via email.

Questions about these materials may be directed to the *Obstetrics & Gynecology* editorial office: obgyn@greenjournal.org.

Date: Jul 23, 2021
To: "Maeve Wallace" [redacted]
From: "The Green Journal" em@greenjournal.org
Subject: Your Submission ONG-21-1198

RE: Manuscript Number ONG-21-1198

Homicide during pregnancy and the postpartum period in the United States, 2018-2019

Dear Dr. Wallace:

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 Aug 13, 2021, we will assume you wish to withdraw the manuscript from further consideration.

REVIEWER COMMENTS:

Reviewer #1: This is a well-done paper on pregnancy-associated homicide, showing that pregnant and postpartum women are more likely to die from homicide than are non-pregnant women of the same age range. The paper is important in giving a national estimate of maternal homicide, and appropriately compares it to other countries with significantly lower rates.

Line 121 - Was the denominator for pregnant people live births for one year or for both years? For 2018 deaths, only 2018 can be used but for 2019, many deaths within 1 year would have given birth in 2018. The description is not clear as to how the denominators were devised.

Line 128, 171 - "exacerbate" implies causation, and I would avoid use of this terminology

207 - coordination between NVDRS and MMR committees - very important!

213 - the pregnancy checkbox has been found to be false positive and false negative, though I agree that under-ascertainment is the predominant misclassification. More discussion of the validity of the pregnancy checkbox would be helpful.

Table 1 - separation of pregnant, <=42 days and >=43 days postpartum would be interesting

Table 2 - the difference between NH black pregnant and non-pregnant women is striking in contrast to the lack of difference in other races. This should be commented on because with a MRR of 1.01, the pregnant and non-pregnant NH white women are very likely to have the same homicide rates. What is driving the specific increased homicide rate in NH black women is important.

Standardization for age and race to provide standardized mortality ratios would be useful since the age categories are very coarse and there is likely residual confounding there.

Reviewer #2: The authors present their work evaluating homicide during pregnancy and postpartum in the US from 2018-2019. The following items should be addressed:

1. Abstract - in the methods, the authors describe the ratio as per 100,000 population, but in the results you have both per 100,000 population and also per 100,000 live births. This should be clarified further in the methods portion of the abstract for clarity.

2. Introduction - lines 88-94 belong in the methods, please rearrange.

3. Methods line 101 - more clarification is needed here. What do the authors mean by "a manner of death indicating homicide"? If the manner of death was gunshot wound, this could indicate homicide but also accidental death or suicide. Further explanation would be helpful as the readers of this journal are unlikely to be familiar with this database and the ways in which the data is coded.

4. Methods line 114 - why did the authors choose to dichotomize age, using 25 as the cut point? Maternal age greater or less than 25 is not otherwise a clinically significant distinction.

5. Methods/results - please provide more information regarding the accuracy and completeness of the reporting of race in this database, given that many of the comparisons the authors performed are centered around this variable.

Reviewer #3:

Summary
The study examines 2018-2019 national mortality data files with recent changes to coding of maternal mortality to examine pregnancy-associated homicide rates compared to homicide rates of reproductive-aged individuals. Our current national vital statistics do not provide information on rates of homicide-related deaths that occur during pregnancy or within 1 year of pregnancy, despite the fact that these deaths could be exacerbated by a pregnancy. Thus, this study fills a critical gap in knowledge. The authors further examine and compare these rates by demographic characteristics, place of death, and cause of death (relative to direct obstetric causes). The authors have done an excellent job highlighting the need for more data to guide programs and policies related to protecting women from homicide risk in general and during this period. I have only a few comments, but which (I believe) are essential for clarity and interpretation of the findings presented in this study.

Introduction
* My one comment here is to include some description of the terminology used in the paper to distinguish maternal mortality from pregnancy-related and pregnancy associated and then how you will use certain terms throughout the manuscript to describe the pregnant and 1 year postpartum population. This is a common question among those less familiar with the distinctions in definitions and, at certain points in the manuscript, you refer to the "maternal population" but mean pregnant or within 1 year. This would not be consistent with the maternal mortality definition of pregnant or within 42 days. I know the authors know these distinctions, so this is more for greater clarity for a reader who may be less familiar with the distinctions. This may also become confusing for reasons described below as well.

Methods
* I read the methods a few times and it was not clear whether the pregnant and 1 year postpartum population was restricted to reproductive aged individuals (10-44 years) in the same way as the nonpregnant/nonpostpartum population. The 2018 method changed coding for those 45+ such that any death in this age group would not rely on the checkbox in coding underlying cause unless there was a pregnancy/postpartum mention in the cause of death section. This was done due to the high rate of misclassification among this age group found in other validity studies. If the pregnant/postpartum group was restricted to 10-44 in this analysis, there is little change between the NCHS 2018 method vs. previous data years, since this age group still relied on the pregnancy checkbox for coding underlying cause of death. While the pregnancy checkbox was less likely to lead to over reporting of maternal deaths in this age group (as shown by the validity studies), the 2018 NCHS method would not necessarily "mitigate misclassification of maternal deaths" for this age range. Thus, this strength is minimized.

* However, the way the methods were described, it wasn't clear to me whether all pregnant/postpartum women were analyzed, including those 45+. In that case, the 2018 NCHS method would reduce misclassification among older ages. However, it makes the comparison between reproductive aged individuals somewhat less comparable as there will be more individuals of older ages (45+) captured in the pregnant/postpartum group. This may be fine because the denominator of live births accounts for all ages, it just was not clear what effect this decision may have on the comparisons. If this was the case and all ages were included for the pregnant/postpartum group, perhaps a sensitivity analysis restricting the pregnant/postpartum to the same age range (10-44) would be informative to see the impact of this analytic decision. Or, if the pregnant/postpartum group is already restricted to ages 10-44, make this clearer in the methods (and in the footnotes of the Tables that describe the denominator). Then, more clearly describe how or if this would have an impact on misclassification among this age group in the Discussion.

* The comparison between pregnancy-associated homicide rates and direct maternal causes will be overinflated due to greater "exposure time" for the homicide causes. All late maternal deaths (43 days to 1 year postpartum) are coded to a

vague cause code (O96) with no information on the actual cause of death even if these deaths could have been due to a direct obstetric cause (e.g., cardiomyopathy). (See MacDorman, Thoma, & DeClercq. https://pubmed.ncbi.nlm.nih.gov/33112910/). Thus, all of the direct obstetric causes represent a window consistent with the maternal mortality definition (pregnant or within 42 days of pregnancy). In contrast, the homicide deaths represent this period of time AND deaths between 43 days and 1 year, thus counts would be higher because there is a longer window of time to be included in this group. I would suggest a sensitivity analysis that limits the comparison of homicide vs. direct obstetric causes to the pregnant or within 42 days of a pregnancy time period to ensure a similar time frame is being compared.

* It may also be important to restrict to states that have the standard pregnancy checkbox in 2018 and 2019. California had not adopted the standard pregnancy checkbox in those data years and this state does not differentiate the timing of the death in relation to pregnancy, only that it occurred within 1 year. Therefore, NCHS codes all California deaths to late maternal deaths (O96) if there is no information on the timing in the literal text of the death certificate (which is often the case). The O96 code provides no information on direct obstetric causes. This would not impact pregnancy-associated homicide rates as these are all coded to external causes, but would affect comparisons with direct maternal causes, because California pregnancy-associated deaths could be counted in the homicide cause counts, but not in the direct obstetric causes. This may have an impact on overall counts as California makes up a large proportion of births and deaths in the U.S.

Results
* Table 1. I would further delineate the timing of death in the pregnant/postpartum group to correspond with the pregnancy checkbox (pregnant, postpartum within 42 days, and 43 days to 1 year postpartum), since the data is available.

* This section would benefit from the additional sensitivity analyses described above.

* P.7, lines 136-138. It wasn't clear to me what victims were being referred to here, "About half the victims were pregnant at the time of death" given that you stated earlier that 5.8% of female homicide victims were pregnant or within 1 year from pregnancy. Is this among the pregnant/postpartum homicide victims, half were pregnant?

Discussion
* P.8-9, lines 180-181. Although I agree these patterns mirror trends in the population, you analyses show how this is exacerbated for these groups during the pregnancy/postpartum period. Thus, this vulnerable period of pregnancy/postpartum further compounds these systemic failures in our system.

* P.10, lines 213-214. I think the problem of the checkbox is both under and over-reporting of these deaths, more generally, misclassification of deaths during the pregnant/postpartum period. I think this can be improved through greater awareness and training of physicians, medical examiners, and coroners on the importance of the checkbox. The 2018 NCHS method does not really fix this for the majority of pregnancy-associated deaths. The problem of underreporting may be more significant for external causes than for obstetric causes.

* P.10, lines 225-226. This may very well be the case, however, I would like to see more sensitivity analyses of this data (described above) before making this conclusion.

STATISTICAL EDITOR COMMENTS:

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

lines 45-48, 121-124 and Tables 1 & 2: The Tables should be define the second cohort as "Neither pregnant nor within 1 year postpartum", rather than as an "or" conjunction.

lines 123-124: Should include in limitations that it is unclear how miscarriages and abortions would be classified, that is, into which group those cases might be placed.

Tables 1, 2: Need units for age. Were the distributions of age vs race/ethnicity non-random? That is, did the increased RR for NH black hold true for both age < 25 y and ≥ 25 y?

General: Should cite in results (or in supplemental material) the denominators used for the various subsets of the female US population that were used to calculate the mortality rates and mortality rate ratios.

EDITOR COMMENTS:

1. The Editors of Obstetrics & Gynecology have increased 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. 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 point-by-point response letter.
B. OPT-OUT: No, please do not publish my point-by-point response letter.

2. Obstetrics & Gynecology uses an "electronic Copyright Transfer Agreement" (eCTA), which must be completed by all authors. When you uploaded your manuscript, each co-author received an email with the subject, "Please verify your authorship for a submission to Obstetrics & Gynecology." Please check with your coauthors to confirm that they received and completed this form, and that the disclosures listed in their eCTA are included on the manuscript's title page.

3. If your study is based on data obtained from the National Center for Health Statistics, please review the Data Use Agreement (DUA) for Vital Statistics Data Files that you or one of your coauthors signed. If your manuscript is accepted for publication and it is subsequently found to have violated any of the terms of the DUA, the journal will retract your article. The National Center for Health Statistics may also terminate your access to any future vital statistics data.

4. For studies that report on the topic of race or include it as a variable, authors must provide an explanation in the manuscript of who classified individuals' race, ethnicity, or both, the classifications used, and whether the options were defined by the investigator or the participant. In addition, the reasons that race/ethnicity were assessed in the study also should be described (eg, in the Methods section and/or in table footnotes). Race/ethnicity must have been collected in a formal or validated way. If it was not, it should be omitted. Authors must enumerate all missing data regarding race and ethnicity as in some cases, missing data may comprise a high enough proportion that it compromises statistical precision and bias of analyses by race.

Use "Black" and "White" (capitalized) when used to refer to racial categories. The nonspecific category of "Other" is a convenience grouping/label that should be avoided, unless it was a prespecified formal category in a database or research instrument. If you use "Other" in your study, please add detail to the manuscript to describe which patients were included in that category.

5. All studies should follow the principles set forth in the Helsinki Declaration of 1975, as revised in 2013, and manuscripts should be approved by the necessary authority before submission. Applicable original research studies should be reviewed by an institutional review board (IRB) or ethics committee. This review should be documented in your cover letter as well in the Methods section of the body text, with an explanation if the study was considered exempt. If your research is based on a publicly available data set approved by your IRB for exemption, please provide documentation of this in your cover letter by submitting the URL of the IRB website outlining the exempt data sets or a letter from a representative of the IRB. In addition, insert a sentence in the Methods section stating that the study was approved or exempt from approval. In all cases, the complete name of the IRB should be provided in the manuscript.

6. Please submit a completed STROBE checklist to accompany your revision.

Responsible reporting of research studies, which includes a complete, transparent, accurate and timely account of what was done and what was found during a research study, is an integral part of good research and publication practice and not an optional extra. Obstetrics & Gynecology supports initiatives aimed at improving the reporting of health research, and we ask authors to follow specific guidelines for reporting randomized controlled trials (ie, CONSORT), observational studies (ie, STROBE), observational studies using ICD-10 data (ie, RECORD), meta-analyses and systematic reviews of randomized controlled trials (ie, PRISMA), harms in systematic reviews (ie, PRISMA for harms), studies of diagnostic accuracy (ie, STARD), meta-analyses and systematic reviews of observational studies (ie, MOOSE), economic evaluations of health interventions (ie, CHEERS), quality improvement in health care studies (ie, SQUIRE 2.0), and studies reporting results of Internet e-surveys (CHERRIES). Include the appropriate checklist for your manuscript type upon submission. Please write or insert the page numbers where each item appears in the margin of the checklist. Further information and links to the checklists are available at http://ong.editorialmanager.com. In your cover letter, be sure to indicate that you have followed the CONSORT, MOOSE, PRISMA, PRISMA for harms, STARD, STROBE, RECORD, CHEERS, SQUIRE 2.0, or CHERRIES guidelines, as appropriate.

7. Your study uses ICD-10 data, please make sure you do the following:
a. State which ICD-10-CM/PCS codes or algorithms were used as Supplemental Digital Content.
b. Use both the diagnosis and procedure codes.
c. Verify the selected codes apply for all years of the study.
d. Conduct sensitivity analyses using definitions based on alternative codes.
e. For studies incorporating both ICD-9 and ICD-10-CM/PCS codes, the Discussion section should acknowledge there may be disruptions in observed rates related to the coding transition and that coding errors could contribute to limitations of the study. The limitations section should include the implications of using data not created or collected to answer a specific research question, including possible unmeasured confounding, misclassification bias, missing data, and changing participant eligibility over time.
f. The journal does not require that the title include the name of the database, geographic region or dates, or use of

database linkage, but this data should be included in the abstract.
g. Include RECORD items 6.3 and 7.1, which relate to transparency about which codes, validation method, and linkage were used to identify participants and variables collected.

8. 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.

9. 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 5,500 words. Stated word limits include the title page, précis, abstract, text, tables, boxes, and figure legends, but exclude references.

10. Specific rules govern the use of acknowledgments in the journal. Please note 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 response in the journal's electronic author 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).
* If your manuscript was uploaded to a preprint server prior to submitting your manuscript to Obstetrics & Gynecology, add the following statement to your title page: "Before submission to Obstetrics & Gynecology, this article was posted to a preprint server at: [URL]."

11. 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 limit for Original Research articles is 300 words. Please provide a word count.

12. 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.

13. 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.

14. ACOG avoids using "provider." Please replace "provider" throughout your paper with either a specific term that defines the group to which are referring (for example, "physicians," "nurses," etc.), or use "health care professional" if a specific term is not applicable.

15. Your manuscript contains a priority claim. We discourage claims of first reports since they are often difficult to prove. How do you know this is the first report? If this is based on a systematic search of the literature, that search should be described in the text (search engine, search terms, date range of search, and languages encompassed by the search). If it is not based on a systematic search but only on your level of awareness, it is not a claim we permit.

16. 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.

17. Please review examples of our current reference style at http://ong.editorialmanager.com (click on the Home button in the Menu bar and then "Reference Formatting Instructions" document under "Files and Resources). Include the digital object identifier (DOI) with any journal article references and an accessed date with website references. Unpublished data, in-press items, personal communications, letters to the editor, theses, package inserts, submissions, meeting presentations, and abstracts may be included in the text but not in the reference list.

In addition, 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 references you are citing are still current and available. Check the Clinical Guidance page at https://www.acog.org/clinical (click on "Clinical Guidance" at the top). If the reference is still available on the site and isn't listed as "Withdrawn," it's still a current document.

If the reference you are citing has been updated and 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.

18. Figure 1: Please upload as a figure file on Editorial Manager.

19. 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 https://wkauthorservices.editage.com/open-access/hybrid.html.

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.

If you choose open access, you will receive an Open Access Publication Charge letter from the Journal's Publisher, Wolters Kluwer, and instructions on how to submit any open access charges. The email will be from publicationservices@copyright.com with the subject line, "Please Submit Your Open Access Article Publication Charge(s)." Please complete payment of the Open Access charges within 48 hours of receipt.

***

If you choose to revise your manuscript, please submit your revision through Editorial Manager at http://ong.editorialmanager.com. Your manuscript should be uploaded as a Microsoft Word document. Your revision's cover letter should include the following:

* A confirmation that you have read the Instructions for Authors (http://edmgr.ovid.com/ong/accounts/authors.pdf), and

* A point-by-point response to each of the received comments in this letter. Do not omit your responses to the Editorial Office or Editors' comments.

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 Aug 13, 2021, we will assume you wish to withdraw the manuscript from further consideration.

Sincerely,

Dwight J. Rouse, MD, MSPH
Editor-in-Chief

2020 IMPACT FACTOR: 7.661
2020 IMPACT FACTOR RANKING: 3rd out of 83 ob/gyn journals
