Author's response to reviews

Title: Contraceptive use following spontaneous and induced abortion and its association with family planning services in primary health care: results from a Brazilian longitudinal study

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Author's response to reviews: see over
Dear Dr Joao Paulo Souza
The Reproductive Health Editorial Team

Please find attached a revised manuscript of MS: 1958772142152534 - Contraceptive use in the six months following an abortion in a restrictive abortion law country: results from a Brazilian longitudinal study, now entitled “Contraceptive use following spontaneous and induced abortion and its association with family planning services in primary health care: results from a Brazilian longitudinal study”.

We have highlighted the changes in the revised manuscript in yellow.

We have also provided a point-by-point response to the concerns. The reviewers’ suggestions were very appropriate, and therefore, entirely accepted.

Best regards,

Ana Luiza Vilela Borges
Contraceptive use following spontaneous and induced abortion and its association with family planning services in primary health care: results from a Brazilian longitudinal study

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Reviewers’ responses

Reviewer 1

1. The term “post-abortion care” is used throughout the manuscript. It is not clear if this refers to a general use of the term, in reference to any period after an abortion or if the authors are using the PAC concept developed over many years throughout the world. It seems like the term is used in a more general way and not referring to PAC. If it does refer to PAC, then references to the extensive literature on PAC, and in particular to the literature referring to contraceptive provision and use post-abortion, need to be included in the article. PAC itself has referred to women seeking care for complications of unsafe abortion. Again, the authors need to clarify whether these are the women included in the study or is it also the few women who access legal abortion services?

The reviewer is absolutely right. Post abortion care was used in the whole text with different meanings. We have corrected the text and used the term post-abortion care in the corrected way.

2. Terms are used throughout the abstract that are not clear: Results section: what is meant by “time” (which is associated with contraceptive use); what is meant by “maternity discharge”. Conclusions section: what are “standard guidelines” (standard according to whom or in relation to what?); what is meant by “simple counseling” These terms are now used in the corrected way. The variable time means the six months of follow-up. It is now explained in the text and how we used it to account for a model with time-varying variables.

3. Abstract: Conclusions section: It states “Medical consultation, in the absence of contraceptive provision, makes no difference.” However, in the results section medical consultation and contraceptive counseling are stated as making an impact on contraceptive use. Is provision or counseling the key variable?

Both provision and counseling are important. We now explain it better both in the abstract and discussion sections.

4. Background, paragraph 3: what is meant by “proper post-abortion family planning”? What does that look like? What is “proper”? Overall, this paragraph mixes statements generally about abortion stigma and the quality of post-abortion care with specific statements about the Brazilian reality. The authors should finish a more general discussion, citing literature that demonstrates a link between stigma and poor post-abortion care and then transition to a more specific discussion of Brazil. They note that only one study (#15) was found in evaluating the quality of post-abortion care in Brazil, but numerous studies around the world have looked at this issue. Authors should cite that broader literature before narrowing the discussion to Brazil only. This same paragraph then ends by defining the study aims. The aims should be pulled out to stand alone in a paragraph, rather than embedded in a paragraph that discusses many different issues.

The suggestion of improving this paragraph is perfect. We have cited broader literature and then narrowed the discussion to Brazil. The objective was reformulated to make it clearer and coherent.

5. The authors need to provide the reader with more clarity about the Brazilian context. The aims highlight that post-abortion contraception is offered through “a prescription” and “self-initiated use”. Are all women in Brazil left to find a way to fill a prescription and then self-initiate use? Are there no hospitals offering methods before women leave the hospital after being treated for abortion complications?

We have incorporated the Brazilian context and how Brazilian women find a way to terminate a pregnancy in the Background section as suggested by the reviewers.

5a. Methods, paragraph two: hormonal methods and the copper IUD require a prescription. Does this mean that the study only included women leaving with a prescription for hormonal methods or the copper IUD? Overall, the text in this paragraph does not belong in the methods section. It describes the system in the SUS, not the methods used for the study.
Good observation. As we have incorporated the Brazilian context to the Background section, we also explain how methods are obtained in both public and private sectors in Brazil. In Methods, we clarify the recruitment of study population.

6. Methods, paragraph one: explain in more detail how the SUS is based on principles of health as a right and state’s duty. Show specifically how this is relevant in the study (and how it relates to the methods used).

We do this in the Background section.

7. Methods, paragraph three: the sample included women hospitalized following an abortion—this makes it sound like the abortion was conducted in the same hospital. I don’t think this is the case. Please clarify this in the article. It is clarified now. The abortion was conducted out of the hospital, and women sought for emergency health care after self-induction.

8. Methods overall: it would be very helpful to the reader if the authors could create a flow diagram of inclusion as well as the numbers of women participating in follow-up over the six month period of the study.

We present a flow diagram. This is Figure 1 now.

9. Methods overall: there is no discussion of how women’s safety and confidentiality were protected, especially when monthly phone calls were being made in relation to an illegal activity (abortion). What did the social researchers say when calls were made? How did they ensure that they were talking to the woman herself and not a family member or friend who could have answered the phone?

We agree ethical issues around this data collection need to be clarified. We have done this in the Methods section.

10. Methods: what is meant by the term “medical consultation”? Does this refer only to provision of prescription? If so, it seems like the prescription should have been given before women leave the hospital. Or is the study also interested in women who receive a prescription for an IUD or hormonal methods at some later point post-abortion? This is not clear. At the same time, what was the basic definition used for "contraceptive counseling" that then was counted in the study? Did the researchers define this term for respondents or did they merely ask, “did you receive contraceptive counseling" and then let every woman interpret this in her own way before responding? If the latter, this seems problematic since women may interpret this in many different ways. We agree these two services were rather confusing for the reader. We have detailed how we measured them. Please the Methods section.

11. Please explain in better detail why Generalized Estimating Equations were used and to what means. What additional insights did using GEE provide to this study?

As a longitudinal study with monthly repeated measures made on each participating women, we need to use a statistical approach that considers the observations are not independent, but some variables are time dependent. Multiple Logistic or Poisson regression would bias the estimates. So we decided to use GEE because we have repeated measure of each women, our dependent variable is categorical, our focus is on population average effect and GEE provides robust estimates of the variances. We have added some more information about this approach in the Methods section.

12. Results: why are “traditional methods” reported as contraceptive use? Which methods did this include?

We included the methods included on the “Family planning: a global handbook for providers”, from the World Health Organization. We also describe the traditional methods reported.

13. Results, paragraph four: “On average, women who reported receipt of both medical consultation and contraceptive counseling…” It is not clear when this occurred and if that made an impact on use. Could women report this separately for different months; was it reporting of receipt at any time during the six months; did both have to take place during the same month or same visit? Please clarify what is meant by this statement since the study conclusions are based on this.

This is a very good point and we realize it was not clear. We now explain in details that we collected the same information every month since the abortion until the subsequent six months. This information was added in the Methods section.

14. Discussion: the study does not show (as claimed) that national guidelines are not being followed. The national guidelines are never described in the paper so the reader does not know what they contain. The authors claim that the study shows that “primary health services were not prepared to deliver family planning post-abortion care (that term itself does not make sense, since FP is part of PAC). Nowhere in the study was an analysis of the capacities of primary health services made, so this particular claim cannot be asserted. Last paragraph: The study also does not show (as claimed by the authors) that “quality family planning services can contribute to contraceptive use” six months post-abortion. The study does not include an examination of the quality of care provided.

We have corrected it all.

The author can be trusted to make these. For example, missing labels on figures, the wrong use of a term, spelling mistakes.

We have corrected it all.

1. Background, first paragraph- make it clear to the reader with MDG5 is.

We have added the information about MDG5.
2. Background, second paragraph- clarify how guidelines for abortion care (2011) include women who “seek post-abortion care”. The reader needs to understand the ways in which post-abortion care are included in abortion care guidelines, especially in a context where abortion is legally restricted.
We have added this information to the Background section.
3. Methods- add the term “women” before “high-risk pregnancies”. Women themselves are offered services, not “high risk pregnancies”.
We have corrected it all.
4. Discussion: post-abortion care is important for preventing repeat unintended pregnancy, not “preventing repeated use of the procedure”, as stated by the authors. Please also define what is meant by “More qualified counseling techniques.”
We have corrected the first and defined the last one.

Reviewer 2
In results, the authors say “Thus we may consider that data were missing at random”. Can they explain? Does it really add anything to the paper?
The authors also state that “Study results also show ... post-abortion care”. I'm not sure I read anything about this in the results so why this in the discussion?
The reviewer is absolutely right. PAC is not the aim of the study, so the whole paper was correct in that issue. Also "Hormonal injectables ... over the last decade in the country" but no reference is cited.
We have added the reference, which is the Brazil DHS 2006 report.
I'm also not sure the authors assess quality of family planning and yet this is mentioned in the conclusions. Can you please clarify!
This is right. We have not assessed quality of family planning services, so we have excluded this comment.
Authors must also check their use of indefinite article "The".
Thanks for the tip! A comprehensive review of the language was held.

Reviewer 3
Title:
1. Adding ‘In a restrictive abortion law country’ in the title is misleading, as it does not reflect anything specific to induced abortions in this study. The study is in general on post-abortion care, irrespective of the abortions being induced or spontaneous.
2. Title does not reflect the FP service associations with contraceptive use (which is given as the objective of this study).
This is a very good observation. We have changed the title to “Contraceptive use following spontaneous and induced abortion and its association with family planning services in primary health care: results from a Brazilian longitudinal study”.

Background:
This needs to be revised to justify the study objective:
1. First paragraph is focusing entirely on induced abortions and its health implications. However, this paper is not on post abortion contraceptive care only of women following an induced abortion but of all women following an abortion irrespective of it being spontaneous or induced.
We have reformulated the Background section in order incorporate spontaneous abortion into the context. Other than one sentence casually given in the second paragraph (last sentence), the background does not highlight the health implications of getting pregnant within 6 months following any type of abortion (which is the main justification for this study).
We have detailed it.
2. Third paragraph again highlights the poor acceptance and use of contraception owing to induced abortion. How it could also affect the spontaneous abortion group needs to be mentioned.
We have added some context to the services provided to spontaneous abortion in abortion restrictive settings.
3. Third sentence in first paragraph cannot be accepted, unless it is supported by evidence from Brazil (in countries with restrictive abortion laws, though all induced abortions are illegal, the majority are relatively safer owing to advancements in safe abortion methods).
I may not have understood perfectly well this comment. There is a global consensus about the negative effects of unsafe abortions on women's health. This remains as an actual rationale for conducting studies among women in abortion restrict law contexts and improving the quality of reproductive health care. Please check this very recent World Health Organization publication: “Although safe, simple and effective evidence-based interventions exist,
nearly 22 million unsafe abortions take place every year; these continue to contribute significantly to the global burden of maternal mortality and morbidity*. (Health worker roles in providing safe abortion care and post-abortion contraception. Geneva: WHO; 2015, page 3). In Brazil, misoprostol trade is prohibited, so women may try other alternatives to terminate a pregnancy. We have added some more information on the Brazilian context on this issue.

4. The objective is not well grounded as to why only these two aspects (women’s receipt of a post-abortion prescription for contraception and self-initiated use of available family planning services in the six months following termination) in the post-abortion FP services have been considered as important associations of contraceptive uptake.

We have reformulated the objective. Thanks for the comment!

5. Why is it called self-initiated?
As it is a very dubious term, we have excluded it from the text.

6. What is meant by ‘available FP services’? where?
We have reformulated all the Background section in order to clarify the Brazilian context.

Methods:

1. The description given on post-abortion contraceptive care and services provided at hospital and field levels is better placed in the background (not in the methods) to put the reader in the correct perspective to appreciate the link between hospital and primary health care facilities that provide post-abortion care in Brazil.

We have incorporated the Brazilian context to the background section.

Details given in methods lack clarity in answering the following questions:
Is provision of prescription the only post-abortion FP service provided at hospital? How about providing counselling for motivation, information about service availability in the field and providing any contraceptive method (e.g. LRT or barrier) before discharge? What is the mechanism to access PHC facilities once discharged? Are they self-referred? How is hospital service linked up with primary health care services? What is the role of field midwife in post abortion FP care?

We have incorporated the Brazilian context to the background section and explained all about this issue. We hope it is clearer for the reader now.

2. The basis for recruiting 184 as the sample size - not given. Pl. give the power calculation.

This is a non-probabilistic sample (Methods section). We recruited half of all women hospitalized for post-abortion care in that maternity in 2011. We make it clear in the Methods section now.

3. Criteria used for defining an abortion - not given.

We have added this information.

4. Sampling method (including the sampling frame used) used to recruit the sample- not given.

We invited all women hospitalized for post-abortion care from May to December 2011. We emphasize this was a non-probabilistic sample.

5. Since the questionnaire has been administered by midwives providing care, interviewer bias could have been introduced. Pl. clarify.

Only the baseline questionnaire has been administered by midwives. This questionnaire focused only on sociodemographic and reproductive characteristics. No questions about the service or contraceptive behavior have been placed by midwives, just by social scientists.

6. What is meant by ‘services on contraceptive use’ needs clarification. i.e. How these services were operationalised in the study using 1. Post-abortion discharge with a contraceptive prescription and 2. post-abortion utilization of family planning services needs to be clarified.

We have clarified it all in the Methods section.

2. Were these variables selected because they reflect the FP service entry points? If so, how reliable this this as an indication of post abortion utilisation of FP services, for patients who did not require prescriptions (e.g. condoms, emergency pill, traditional methods) or could obtain the service by visiting private sector other than primary health care facilities?

This is very good question. The way the Brazilian family program is currently implemented in primary health care makes it complicated to assess the utilization of family planning services. Women and couples can access the services in many different combinations. For example, she/they can receive contraceptive counseling from a community health worker and obtain a condom direct from the clinic pharmacy or purchase it at drugstores; she/they can desire to use IUD, receive contraceptive counseling in an education meeting, but cannot access a medical consultation in order to obtain a prescription and an insertion. In both situations, clients utilize FP services (contraceptive counseling), but in the first situation, they obtained the method whereas in the second situation, they have not.

3. Wouldn’t it be more suitable to ask about these services in terms of providing education on health risks of getting pregnant soon after abortion, providing information sources on where and how to access FP services in PHC facilities, attending counselling sessions, home visits by field midwives, etc?
We actually did this, but responses were limited. Actually, very few women related they were informed on health risks of getting pregnant soon after the abortion/were informed where to obtain FP services during emergency treatment or during six months following the abortion. But we have to consider these points in further studies.

7. Data analysis is not given separately, but along with the variable descriptions. This makes it difficult to follow the methods section.

We now describe data analysis separately and in more details.

8. Model descriptives, including the dependent and independent variables that were used – not specified.

We now describe data analysis separately and in more details.

Results

1. Table 1 is rather confusing. Title and Column headings do not make much sense. How the totals in every column happen to be the same is not clear.

The reviewer is absolutely right! We have corrected the totals and reformulated the title and headings.

2. Table 2 – Not clear what ‘time’ refers to in the model. Assuming that the model used contraceptive use as its dependent variable (details about the model however are not given clearly in methods), time cannot be included as an independent variable (categories of months 1-6 are not mutually exclusive from each other). Also, how method-mix was accounted for in this variable is unclear.

The variable time means the six months of follow-up. It is now explained in the text and how we used it to account for a model with time-varying variables.

3. Table 2 – Service obtained from private sector or using a contraceptive that does not require a prescription or utilising FP services (e.g. traditional method) are not accounted for as confounders in the model.

They are accounted if the service included contraceptive counseling (from private providers or pharmacists in drugstores) or a medical consultation in the private section.

4. ‘Only 8.8% of clients were discharged with contraception.’ This question is not asked according to the methods (Does this refer to the prescription given?).

We have added this issue in the Methods section.

5. This 8.8% should ideally be removed as they would not be accessing the PHC services anymore for initiating a method.

Good point. We present a model without women who were received a contraceptive prescription during hospitalization.

6. Figures –Data collected are not on continuous scale, but collected as binary data at 6 time points. Each line does not represent the same population. Some may move between categories and at different time points. It would be better to show the 6 time points in six juxtaposed -bars for different methods of contraception (or different services accessed), instead of in frequency polygons.

We have reformulated the graph about FP services utilization. The graph about contraception methods was excluded and information about it is only shown in the Results section.

7. Those who become pregnant should be removed from each time point.

We have done it and this information is clear in the Methods section.

Discussion

1. ‘Months 2 to 6 were related to higher odds of the woman’s post-abortion contraceptive use than Month 1. Model 2 shows that the results for contraceptive use over six months after an abortion remain consistent in the absence of the non-significant variables.’ - Please clarify why the model was run with and without non-significant variables included. What is the importance of this?

We now present just one model.

2. ‘Our study shows that post-abortion family planning care is poorly delivered and national guidelines are not being followed fully. In fact, very few women were discharged from the maternity hospital with a prescription for contraceptives. Study results also show that primary health services were not prepared to deliver family planning post-abortion care.’ - Not supported by results, tables or figures. Pl. refer to the part in result.

Reviewer 1 have also argued about this affirmative. We have excluded it from the text.

3. ‘One could ask how so many women used contraception in spite of not utilizing proper family planning services through simultaneous medical consultation and contraceptive counseling. The answer lies in the method mix during the six months of follow up.’ - Not assessed in this study, hence cannot comment on it.

We have excluded it from the text.

4. Needs to discuss bias that may have been introduced owing to no documental evidence to verify the facts given over telephone.

We have done this in the Discussion section.

5. The study includes women of both types of abortion (‘induced’ or ‘spontaneous’). However, the contraception needs of the two groups are vastly different (E.g. Induced women may require long-term contraceptives for more than 6 months while spontaneous women may require only a short acting one for just 6 months). In this context, when data are presented pooled together, it loses its relevance to service provisions on unmet needs of women. This could be addressed by analysing the data by their planned and unplanned pregnancy status.
You are absolutely right. We now include the results considering the pregnancy planning status.