Author’s response to reviews

Title: Women’s contraceptive discontinuation and switching behavior in urban Senegal, 2010-2015

Authors:

Janine Barden-O'Fallon (bardenof@email.unc.edu)
Ilene Speizer (ilene_speizer@unc.edu)
Lisa Calhoun (lisa_calhoun@unc.edu)
Meghan Corroon (corroon@unc.edu)

Version: 2 Date: 05 Jan 2018

Author’s response to reviews:

January 5, 2018

Dear Ms. Menkhorst,

Please accept the revised manuscript, “Women’s contraceptive discontinuation and switching behavior in urban Senegal, 2010-2015” submitted for publication in BMC Women’s Health (BMWH-D-17-00385R1). We appreciate the positive feedback and thorough review from the reviewers and include a revised manuscript with track changes and a detailed response to reviewer comments for modifications and additional analysis (below).

We look forward to your positive response.

Sincerely,

Janine Barden-O'Fallon, Ilene Speizer, Lisa Calhoun, and Meghan Corroon
Response to reviewer comments

Reviewer #1 Erin Irwin, MD, MPH

1. Consider spending less time describing the entire cohort (which includes approximately 45.6% of women with reported reduced need) and more time looking at women who are in need, switching methods, and having method side effects and/or failures.

We conducted a further analysis on the next event after discontinuation for the discontinuations that were not due to reduced need. This analysis found a similar pattern as that found for all discontinuations, though the percentage resulting in a method switch was higher (32%) and pregnancy was most common after discontinuation of condom and traditional methods (rather than traditional methods and pill, as seen in the full analysis).

The following was added to the results section: “The next event after discontinuation was also assessed for the sub-group of discontinuations that were not due to reduced need (n=1,514). A similar pattern to that presented in Table 4 was found, though switching was more common (32%) and pregnancy was highest after discontinuation of condoms (38.8%) and traditional methods (30.8) (contact first author for results).”

2. Additional analysis should include some reference to the passage of time and multiple observations per women. You looked at women over five years, however lumped all their FP use or non-use into one variable.

The time element of women’s contraceptive use was assessed with a survival analysis (as shown in the discontinuation rates by method). Further analysis on method discontinuation and the next event also includes a time element, though the reviewer is correct that it does not indicate the sequence of discontinuation events.

3. Multinomial logistic regression should not be used when multiple observations are used over a time span or if women are allowed to change within the time frame. Consider changing your method to generalized estimating equations or mixed effect. I find your decision to use the "in need" group as your reference in Table 5. Perhaps consider two separate questions 1) In Need vs. No Need and 2) among women who are in need - who switches and who doesn't.

We respectfully disagree with the reviewer and feel that multinomial regression is a suitable modeling approach for this analysis. The data are not structured in a panel format which is required to use the methods suggested. Further, most women (71.4%) only have 1 discontinuation event (22.9% have 2 and 5.7% have between 3-8). In terms of running the suggested separate models: a comparison of In Need vs No Need is included in the original
regression analysis, running it separately was found to produce the same results. The second suggested model (who switches and who doesn’t among women who are in need), is not possible, as by definition, if women are “in need” of contraception after discontinuation, they did not switch to a method. To restate the categories used for our analysis of what comes after discontinuation, they are: 1) No method use/No need; 2) No method use/In need; and 3) Switched methods.

4. In Table 4 addressing the amount of time to next event and whether that event is pregnancy or next method is an important question to answer.

Agreed. All of the next events presented in Table 4 are the next calendar month following the end of the index event (ie, the calendar month subsequent to the discontinuation event).

5. The background section is too long. Consider deleting lines 86-92. Line 94-97 already stated in line 81 consolidate or delete. Line 98-111 move this to discussion section and compare to your results. Line 113-118 deleting not important for your paper or what you are trying to discuss.

The background section has been shortened. Specifically, lines 105-111 were moved to the discussion and compared to results and lines 74-75, 86-92, and 113-118 were deleted. Research presented in lines 94-97 is different from that in line 81 (the percentages happen to be the same).

6. In the Methods section: Line 170-171 as noted above time and how it fits into your analysis need to be clarified. Line 171-175, move to discussion section. OK to simply state no censor period was used. Line 189 (up to one month? 30 days?) be specific Line 190 - See above for concerns about your analysis.

Lines 171-175 were deleted from the methods section, and the statement “No censor period was used” was added in replacement. Line 174 was moved to the discussion section. Line 185 now specifies “calendar month” (as it is recorded in the data collection tool) for lines 185-189.

7. In Results: Table 4 - Clarify pregnancy intention/need as you discuss pregnancy rates. You found pregnancy is higher after stopping certain methods, but you don't discuss this in terms of need/intention. Perhaps women choose pills or traditional methods as they are perceived as easier to discontinue to become pregnant.
True, however, pregnancy intentions (and reasons for discontinuation in general) are not assessed in this table, which simply shows the pattern of what is happening in the calendar month after discontinuation.

8. Line 278-279 - elaborate here - this is the group that needs further discussion. Table 5 - see comments above. The column on left need to be predictors. Can you say with certainty that "method discontinued" and "source of method" are predictors and not outcomes? You need to list P-values for overall categories not just subsets.

Modifications to earlier sections have helped to elaborate lines 278-279.

Time wise, both the method discontinued and the source of the method discontinued come before the outcome of what happened in the next calendar month after discontinuation. Method type may influence whether discontinuation leads to a method switch or nonuse because some methods are easier to discontinue and do not require contact with health professionals; source of method may act in the same way.

We used STATA for the analysis, which provides p-values for individual variables rather than categories. We feel this is appropriate for our analysis.

9. In the Discussion: Line 314 - clarify as your results don't support this statement - there isn't discussion of time. Line 326 - Does your data allow you to discuss this further - why so high? Line 336 - inherent bias or recall bias?

Line 314: “immediate” was replaced with “in the next month”

Line 336: “inherent” was replaced with “recall”

Line 326: We can ungroup the data to look at this further; in so doing, we find the most common method-problem reasons for discontinuation of the IUD were “created menstrual problem” and “fear of side effects/health concerns”, together accounting for 74% of the method-problem reasons for discontinuation. A comment related to these reasons has been added to the discussion section.

10. Line 353-358 - I agree with the authors conclusions here, and hope they can look at their data more closely to provide programs and MOH more specific information on how to provide durable FP services.

The discussion section has been revised to include details on these issues.
Reviewer #2 Solomon Weldemariam Gebrehiwot, MSc.

1. Fix verb tenses in abstract, introduction and methodology

Verb tenses were fixed in the abstract, introduction (background), and methodology sections.

2. In Introduction:
   • Page 4, lines 74-75, 75-76, 76-77, 89-90 should be referenced.
   • Wrong uses of tenses in page 4, line 83-84,
   • Page 5, lines 105-111 taken from one literature (chunk of ideas from the same literature) which is not recommended.
   • Page 5 line 115 clarify the word Contractive, is it to mean contraceptive?

The following changes have been made: References were added to lines 75-76 and 76-77. Lines 74-75 and 89-90 were deleted as recommended by reviewer #1. Verb tenses in lines 83-84 were changed as part of addressing comment #1. Lines 105-111 were moved to the discussion section and reworked and line 115 deleted, according to suggestions from Reviewer #1.

3. In Methods: Clarify design: Is it a cohort study or a follow up cross sectional or an evaluation after intervention? From the topic it seems to be a follow up study starting from 2010-2015 (for 5 years) however page 6, line 136 indicate that data were collected in 2015 and line 137 indicates there was baseline data in 2011. Overall make it clear about the design, the data collection technique (whether it was record review or face to face interview).

Line 137 indicated a “panel study”, which is a cohort study. The text now reads, “The Data were collected by face-to-face interview from 6,927 women in 2015 as the third round of a panel study (73.5% of the 2011 baseline sample were found and surveyed in 2015).” Retrospective data on contraceptive and discontinuation for the five years preceding the 2015 survey were recorded in a contraceptive calendar and analyzed for this manuscript. More details on the contraceptive calendar is included in lines 149-158.

4. In Methods: In the classification of contraceptive methods page 7, line 153, the category of other modern includes Standard Days Method, emergency pill and "other modern" and in line 154 also there is classification as traditional methods. Therefore, how could standard day method be classified under other modern methods? Why wasn’t it included under
traditional methods? Moreover, it is not clear that "other modern" under other modern category. Other concern, how did you consider emergency contraceptive to include in discontinuation rate since it is not a routine contraceptive method? Even the other modern classification under quotation is not defined what are the others.

The Standard Days Method is a modern method of family planning, according to the WHO. We refer you to this list of accepted modern methods of family planning: http://www.who.int/mediacentre/factsheets/fs351/en/. “Other modern” was simply a response category for women but often includes methods such as spermicide or diaphragm. Emergency contraception is considered the same as other coitus-dependent methods, such as the condom; use of the method in the month in which it occurs is marked as “use” and non-use of the method in the subsequent month is considered a discontinuation.

5. In Methods: Page 7, lines 165-166 indicate that the analysis calculated all-reason and method-specific discontinuation rates at 6, 12, 18, and 24 months however the topic indicates 5 years study. Do you mean that women followed only for 24 months only after they start a contraceptive method?

While twelve-month discontinuation rates are the most commonly reported in the literature, we felt it was important to include discontinuation rates at 6, 12, 18, and 24 months to show the patterns (overall and by method). The full five years of data are included in the life table analysis, however, the standard convention is not to report the rates for that time frame.


Tense was fixed in response to comment #1.

7. In Results: The result section should focus on the result of the study only and avoid discussion on the result which seen in Page 10, line 217-218.

The phrase relating our results to the Senegal DHS was deleted.

8. In Results: Page 10, line 230 indicates that all LAM users have discontinued by 12 months, do you mean that LAM method extends beyond 6 months as contraceptive method? Make clear the definition used for LAM.
There is only one definition of LAM. The three conditions that must be met to be using the method are that mother’s monthly bleeding has not returned; the baby is fully or nearly fully breastfed and is fed often, day and night; and the baby is less than 6 months old. Thus, by definition, all LAM is discontinued at 6 months, as stated in line 235-6, which now reads: “By definition, all LAM users discontinued by 12 months since LAM is only a method for the first six months postpartum.”

9. In Results: What does "other" stand for, in page 11, line 247?

“Other” is a response category included in the calendar; this is why it is in quotes. “Other” includes any reasons for discontinuation that can not be categorized one of the other 18 categories.

10. In discussion:

   • Sentences in Page 14, lines 308-311 should be referenced.

   • Page 14, line 313-317 should be discussed and supported with previous studies and in the same page lines 318-330 are not discussed and supported with previous findings.

   • In the limitation part page 15, lines 338-340 the sentences is not clear it needs recast or clarification. Did you exclude pregnant women as a result of method failure?

   • Overall the discussion part is not well discussed in detail and it should be supported with findings from previous studies.

The following changes were made to the discussion: additions were made to the text to relate our findings to previous research; a new reference was added; reference citations were added as needed to lines 308-311; and lines 338-340 are now followed by “As a result, the numbers for pregnancy and pregnancy due to method failure may be underreported” (this is because we did not censor the data).

11. In Conclusion: Statements in Page 16-17, lines 362-367 should move up to discussion section. It is not recommended to site references in conclusion part rather the conclusion of the study should draw inferences in the light of the result/findings.

Lines 362-367 were moved to the discussion. There are no longer any citations in the conclusion section.