Author’s response to reviews

Title: Can community health workers increase modern contraceptive use among young married women? A cross-sectional study in rural Niger

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Author’s response to reviews:

Reviewer #1: Can community health workers increase modern contraceptive use among young married women? A cross-sectional study in rural Niger.

Introduction

1. What is this paper about?
   o Comments: The paper addressed clearly the purpose.
   o Response: N/A

2. Why is the paper needed?
   o Comment: the rationale is not strong. Authors need to build on that section. They could do this by bringing out clearly the problem(s) associated with access and utilization of modern
contraceptive in Niger, which the CHWs’ visits could provide solution to. And even more importantly how this study will add to the reports of studies and evaluations in this area.

Response: We have added several new sentences to strengthen the rational for this manuscript.

The problem of low access and utilization of modern contraceptive experienced by adolescent girls in Niger can be resolved to some degree by the introduction of Community Health Workers (CHW). In settings where unmet need for family planning is high and access is low, evidence has shown that community health workers (CHWs) can increase uptake and use of contraception.

There is a dearth of empirical evidence that study and document the effects and associations of family planning programs and interventions in Niger. To our knowledge, no studies have explored patterns between CHW visits and use of contraception in Niger. This manuscript will contribute to the limited evidence base of family planning studies that currently exist in Niger. In a country with low investments in health, high rate of adolescent fertility, low contraceptive use, and restrictive social and gender norms, exploring CHW’s’ effect on contraceptive use among adolescent girls is an important public health topic both in Niger and other west-African countries.

3. What is the question that the study seeks to answer?

Comment: the question was concisely stated.

Response: N/A

Methods

1. Are the methods used clearly stated?

Comment: Not clearly stated. Authors need to state clearly how they got to the respondents, which should be a multistage procedure; stating at every stage the specific sampling technique used. E.g. Need to specify which sampling technique was used (e.g., simple random sampling) rather than simply stating random sampling 48 villages were selected out of how many villages. Need to specify total number of villages in the Dosso region of Niger

Response: We have revised the methods paragraph to clarify the sampling technique used (new addition in BLUE):
“A two-stage cluster sampling approach was used in this study. Data were collected across randomly selected villages within the Dosso, Doutchi, and Loga districts in Dosso region meeting the following inclusion criteria: 1) having at least 1,000 permanent inhabitants; 2) primarily Hausa or Zarma-speaking (the two major languages of Niger); and 3) including no known recent intervention specifically around family planning (beyond standard health services and including CHW visits) or female empowerment with married adolescent wives or their husbands. Based on this village inclusion criteria, there was a total of 104 eligible villages in Dosso district, 114 eligible villages in Doutchi district, and 32 eligible villages in Loga district. In the first stage, quota random sampling was performed so that 3 villages with health facilities, 9 villages with health posts, and 4 villages with neither a health facility or health post, were randomly selected from each district for a total of 48 villages (16 villages in each district). In the second stage, twenty-five young married women from each of the 48 villages (N=1200) were selected using simple random sampling from a list of all married women living in the village that was provided by the village chief.

Key variables: May need citation for the definition of LAM as a modern method as it differs. Some authors categorize it as a traditional method (Festin vs. Hubacher).

Response: We have added the following sentence (and reference) to this section: “LAM was categorized as a modern family planning method in order to align with the modern contraceptive definitions provided by the international Demographic Health Surveys and National Institute of Statistics in Niger” [REF: INS, ICF International. Niger Demographic and Health Survey 2012. Calverton, MD; 2012].

Data analysis: Why did they control for the CHW visit, which is a main independent variable?

Response: Our analysis was assessing the association between CHW visit & modern FP use. We have revised the following sentence in this section to improve the clarity of our analytic approach: “Multivariate logistic regression was conducted using data from young married women who were not pregnant at the time of the survey to assess whether reporting current use of modern family planning methods was significantly associated with being visited by a relais in the past three months”.

Not clearly stated. Why did they use 0.2 as a significance level?

Response: The purposeful selection of covariates for multivariate logistic regression starts with bivariate chi-squared test to assess the individual associations of the sociodemographic covariates with current use of modern family planning methods. We used a p-value cut-off point of 0.20 as more traditional levels such as 0.05 can fail in identifying variables known to be important. We have added a new reference in this section to justify this analytic approach (REF:

2. Are they appropriate to the study?
   o Comment: The statistical tools used are appropriate
   o Response: N/A

Results

1. Does the paper report on the findings in relation to each of the research questions?
   o Comment: Yes, the findings are reported in relation to the research question. However, we suggest following changes to make it clearer.
     ♦ Table 1 might require revision, as it includes more than required information that Table 1 should have.
     ♦ Response: We have revised Table 1 by deleting any redundant information (e.g. responses for “no” variables, collapsed parity responses after 3, etc)
     ♦ Table 3 has to be in the place of Table 2 and Table 2 as Table 3. Analytical report could be reported after all the descriptive reports are reported.
     ♦ Response: We have switched the ordering of Table 2 and 3 as recommended.

2. Are the answers clear and convincing?
   o Comment:
     ♦ Could categorize the parity variable into <+2 and >2, no need to specify % for "No" as it will be self-understood.
     ♦ Response: We have revised Table 1 based on this recommendation.
     ♦ Table 3 has to be Table 2 and Table 2 as Table 3
     ♦ Response: We have switched the ordering of Table 2 and 3 as recommended.
     ♦ May need to report aORs and p-values for main outcome estimates under the result section. Might cut-down the descriptive results and refer results to the respective tables.
Response: We have reported the aORs and p-values in the result section. We have decided to keep the narrative associated with select descriptive results as we would like to highlight findings that we believe standout for the reader.

There are no chi-square results stated under the results section, even though authors specify it under the methodology section.

Response: Specific results associated with the chi-square analysis were not presented in a separate results table, however, the purposeful selection of covariates for multivariate logistic regression starts with bivariate chi-squared test to assess the individual associations of the sociodemographic covariates with current use of modern family planning methods. Please refer to the footnote in Table 2 (†Adjusted for all other covariates in the model. Covariates removed based on p-value of >0.20 in bivariate chi-square tests include: husband’s number of wives, husband spent a period longer than 3 months away from village, household assets. Tribe was excluded because of collinearity with district. Covariates removed based on backwards model selection from full adjusted model with p>0.10 include: wife’s age, husband’s age, wife’s schooling, husband spends majority of nights at wife’s compound, and food insecurity.)

The last para under the results should be before the analytic part

Response: We have moved the last paragraph of the result section before the analytic section.

Place all tables and figures at the end of the manuscript

Response: We have moved all tables and figures to the end of the manuscript.

Discussion

1. Are the key findings in relation into each research question stated?

Comment: yes

Response: N/A

2. Are the interpretations of the findings stated?

Comment: No interpretations of the findings are not stated that made the discussion scanty and results are duplicated.

Response: The new discussion section has been revised throughout to highlight key points and interpret results against the literature. In particular, new paragraphs have been added to highlight other salient findings captured from the multivariate logistics regression, including employment
and district variability in regards to current use of modern contraceptives in this study population.

3. Are the findings compared with the findings from other studies?
   o Comment: yes
   o Response: N/A

4. Are the strengths and weaknesses stated?
   o Comment: They stated the weaknesses but strengths were not discussed.
   o Response: A new “strengths” paragraph has been added to the discussion section:

   i. “This study has several strengths and weaknesses that are important to note. With so few family planning research studies conducted in Niger, there is a knowledge gap and dearth of family planning evidence from the country that ranks at the bottom of the Human Development Index. To our knowledge, no studies have explored patterns between CHW visits and use of contraception among young married women in Niger. This quantitative study conducted among young married women offers new insights and perspective from a country that has low investments in healthcare, low access and utilization of modern contraceptives, and the world’s highest fertility rate. In addition, the study’s robust quantitative analysis that explores the association between relais visits and current use of modern contraceptives through multivariate regression analysis, contributes to the important discussion of CHWs improving access to family planning services in Niger and other LMICs where access to care remains an important public health issue.”

5. Are the implications of the findings for research and action stated?
   o Comments: The implications were not stated under the discussion.
   o Response: A new sentence has been added to this section: “The implication of the study findings suggests that trained CHWs in Niger can result in increased access and utilization of modern contraceptives among young married women”.
Conclusion

1. Does this section clearly and concisely state the conclusions of the study in relation to the key question it sought to answer and the contribution that the paper would make?
   o Comment: Yes
   o Response: N/A

References

1. Do they match the text
   o Comment: Yes
   o Response: N/A

2. Are they credible
   o Comment: Yes
   o Response: N/A

3. Are they recent?
   o Comment: Yes
   o Response: N/A

4. Are they correctly stated?
   o Comment: Yes, but the in-text citation does not follow the Vancouver style (requirement of the journal as stated in the website).
   o Response: We have revised the in-text citation to follow the Vancouver style.
Reviewer #2: I have made slight proof-reads, and added a few suggestions, and will share these with the Journal editors.

Response: Proposed copy-edits have been accepted. Response to each of Reviewer #2’s recommendations have been addressed in the corresponding comment box (see "track changes" version of revised manuscript that has been attached as part of the re-submission process).

Comment: “Other young, unmarried women” might be preferred to just “other youth,” in this case.

Response: We have revised this statement for clarity

Comment: Should the basis for this recommendation for further comparative research be for nulliparous women or unmarried (no union) young women? I will humbly recommend the latter, not the former.

Response: We agree that additional research should investigate the barriers of unmarried women in Niger. However, since this study specifically focused on young married women in rural Niger – the recommendation was targeted to conduct additional research within this target population (young married women) since the findings from our analysis detected interesting results about the lack of engagement and access to FP services faced by nulliparous women. As a result, we respectfully would like to disagree with your recommendation and would like to keep our sentence as it is currently written.

Comment: Perhaps “unwanted pregnancies” or “unintended pregnancies” might be more appealing/relevant?

Response: We have revised this phrase with “unintended pregnancies” as suggested.

Comment: It will be great to quote Kohler and Behrman’s paper, on behalf of the Copenhagen Consensus Center, where it was shown that a benefit of 120 US dollars will be reaped for every dollar spent on universal access to sexual and reproductive health (SRH) services by 2030, and the elimination of unmet need for modern contraception by 2040.

Response: We truly appreciate this recommendation and have added this key point (and corresponding reference).
Comment: These are 2016 rankings, as in the References. It will be great to have 2018 or 2017 rankings.

Response: We have updated the sentence to incorporate rankings from the latest 2018 UNDP reference.

Comment: Married adolescent boys, or girls, or both? It will be desirable to be clear about this.

Response: Sentence revised for clarity (married adolescent girls).

Comment: I like to humbly disagree with the use if this word, as the ‘Schools of Health Technology’ or ‘Schools of Community Health Workers’ are almost always formally registered and accredited. In contrast, and this varies among different countries and their respective contexts, a village health worker (VHW) or traditional birth attendant (TBA) is informally trained

Response: Thank you for highlighting this important point. We have removed the qualifying statement “as in other LMICs” as this statement only applies in Niger.

Comment: Such CHWs, as described specifically in this context, fit more with the “informal” appellation.

Response: Thank you for this important point. As a result of this comment, we have decided to replace the term CHW in this manuscript with their actual title (relais) to avoid any confusion.

Comment: It will help to state the geographic zone in Niger to which Dosso belongs.

Response: We have revised this sentence accordingly (Dosso located in the south-west corner of Niger)

Comment: I’m a bit concerned that this will be realistically measured – to go without eating the whole day. Perhaps it would have been best to measure skipped meals (breakfast, lunch or dinner), and the frequency of such skips.

Response: This particular survey question was obtained from the globally validated “Household Hunger Scale” [USAID-funded Food & Nutrition Technical Assistance Project]