Reviewer’s report

Title: Are family planning vouchers effective in increasing use, improving equity and reaching the underserved? An evaluation of a voucher program in Pakistan

Version: 3 Date: 10 Jan 2019

Reviewer: Research Square

Reviewer's report:

"STATISTICAL REVIEWER ASSESSMENT:

Is the study design appropriate for the research question (considering whether the analyzed population accurately reflects the design and whether you see any problems with control/comparison groups, e.g., likely confounders)?

Yes - overall design, population, and control groups are appropriate

Are methodologies adequate and well implemented (considering whether assumptions are addressed and whether analyses are robust)?

No - there are minor issues

Are the analyses adequately communicated (considering whether reporting details are adequate and whether figures and tables are well labeled and described)?

No - there are minor issues

Does the interpretation accurately reflect the analyses without overstatement (considering whether limitations/bias are acknowledged and whether accurate descriptors, e.g., 'significant', are used)?

No - there are minor issues

Could an appropriately REVISED version of this work represent a statistically sound contribution?

Probably - with minor revisions

STATISTICAL REVIEWER COMMENTS:

The study was well conducted and well reported. The statistics used were appropriate for the kinds of data collected. Best practices for statistics were met. A few corrections are however required. The use of the word multilevel logistic regression in the title of one of the tables seems inappropriate. Multilevel logistic regression was not done. It didn't appear anywhere else in the
paper. The levels of the analysis were not reported. The authors may remove this word from this title or justify its use with the necessary statistics.

REQUESTED REVISIONS:

Title of study: Since its in a question form, there is no need to add: an evaluation of a voucher.... In the results section of the abstract, mean age should be reported with the standard deviation. Line 17 of the results section. The first set of odds ratios given should be presented with their corresponding confidence intervals. Line 20 to 26 in the results section is too long and clumsy. Three odds ratios were presented in the same sentence without mentioning the reference categories. Authors are advised to recast this sentence. On equity analysis, more figures and statistics are necessary. What was presented appeared to be too summarized. Authors should endeavor not to discuss the results until the discussion section. On table 2 and other tables, education was presented at both baseline and endline. Is this supposed to change at endline? Table 4: Is awareness also expected to change at endline? Table 6: Multilevel logistic regression was not presented. There were no statistics to indicate a multilevel analysis.

ADDITIONAL REQUESTS/SUGGESTIONS:

In the first sample size determination, power was not mentioned. Title of that section should be sample size determination and not sampling. Under stratified sampling, what was described was not sampling but sample size. Binary response should be operationally defined. There appeared to be several response variables: ever use, current use,...etc. Definitions of these response variables are crucial. Sample size was mentioned to detect an odds ratio. More details are necessary here. What does this odds ratio represent? odds of ever use, current use, voucher access. How was the questionnaire administered? Was it self or interviewer administered? On demographics, only respondent age and husband's age were presented. Were these the only socio demographic variables? Authors should be consistent; contraceptive use, uptake, utilization? These words were used interchangeably throughout the manuscript. The words intervention versus control or Chakwal versus Bhakkar should also be revised. Authors should be consistent. The main goal of the study was the effectiveness of the voucher, and this was not defined anywhere. Authors are advised to give operational definition of this effectiveness. How was it measured? On table 1, are the two locations actually comparable? Are they similar? The authors should justify these as no p values were presented. Table 6, first row as OR(95%CI). This should be on the second row under the response variables. Knowledge was mentioned in the tables, however awareness was mentioned in the results. Are they the same? The two cannot be used interchangeably. If it was truly knowledge, how was it measured? The methods section should have addressed this. The title of table 6 has both endline and baseline. This is not clear. Were the results merged?"
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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Please complete a declaration of competing interests, considering the following questions:

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