Author's response to reviews

Title: Health Services Quality as a determinant of the use of intrauterine devices in Egypt

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Author's response to reviews: see over
Dear Editor,

Enclose please find our responses to address the comments by both reviewers. We provided point-by-point responses to the comments and revised our manuscript accordingly. We hope that we have addressed all the comments by both reviewers and the manuscript meets the requirements and is ready for publication.

Sincerely Yours,
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Responses to reviewers’ comments

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Effects of Health Services Quality on the Use of Intrauterine Devices in Egypt

Responses to reviewers 1: Eric Seiber (16 December 2005)

1. Is the question posed by the authors new and well defined?
Yes, the question is clear and very relevant. Despite the common assumption that quality matters, very few studies have been able to successfully demonstrate that quality influences utilization.

Response: No response is necessary

2. Are the methods appropriate and well described, and are sufficient details provided to replicate the work?

Major Compulsory Revisions

a. The cluster sample design of the DHS requires a correction in the standard errors of the estimation to produce valid results, otherwise the p-values are misleading. It is unclear in the manuscript if the authors made this correction. This correction is trivial in STATA when using the survey estimators and DHS data (set the STATA primary sampling unit to the DHS cluster). If already done, only a few sentence change is required.

Response: Yes, we agreed. We analyzed the data with correction of the standard errors of the estimation the result. We add the following sentence in the last paragraph of the Methods section to illustrate that (Page 9, paragraph 2): “Estimation of standard errors takes into account design effects due to clustering at the level of the primary sampling unit.”

b. I found the Quality index very difficult to interpret. Why did the authors aggregate the four very different quality proxies into a single index? From a programmatic standpoint, it would be much more informative to know which quality proxy actually matters (use four different quality measures). If quality was of secondary interest, the aggregate index would be justified, but it needs more careful design since it is the main focus of the paper.

Response: We described in detail that the quality index of each of the four family planning services component is the standardized availability to 25, of items in each of the components and the total index is the sum the four standardized index. The overall quality is essential to represent the actual total services quality received by the clients. We agreed that it is more informative to show which quality component make significant contribution to the total quality. We add Table 4 to present the result of four separate analysis estimate the unadjusted and adjusted effects each of the component family planning services. We add the following paragraph in the Results section (Page 11,
paragraph 2) “Table 4 presents the main effects of four separate analyses estimate unadjusted and adjusted effects of each component of quality in family planning services. The results show that the effects of total quality in family planning services on the use of IUD obtained from public sources is contributed by two main quality components: counseling and examination room, independent of several other factors.”

c. Despite quality being the central focus of the paper title, the manuscript dedicates only two sentences to the quality results. The analysis of the quality measures needs substantially more development. As the paper is currently written, the focus would be more accurately described as the determinants of IUD usage in Egypt.

Response: We improved the title to the following: “Health Services Quality as a determinant of the Use of Intrauterine Devices in Egypt”

Minor Essential Revisions
d. How is “Married Women” defined? I am not familiar with the Egyptian context. Is that only formal marriage or does it include common-law marriages (the broader “Women in Union” definition).

Response: Married woman is defined as formal marriage and common-law marriages. However, within the Egyptian context (as a Muslim country) married women are of formal marriage. For example the core DHS questionnaire, question about “current marital status” has five response categories: 1) currently married, 2) living together, 3) widowed, 4) divorced, and 5) not living together. In the questionnaire adapted for Egypt DHS, the responses to this question do not include category 2) living together.

Discretionary Revisions
e. When using multinomial logit, simulations using predicted probabilities are very helpful in interpreting the magnitudes of the relative risk ratios. I believe that David Hotchkiss has several MEASURE publications that use this approach.

Response: Within the scope of this paper, we prefer to keep the analysis as it is.

3. Are the data sound and well controlled?
Yes, the DHS is the gold standard of international data sets.

Response: No response necessary

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
See comment 2.c.

Responses: See response in 2.c

5. Are the discussion and conclusions well balanced and adequately supported by the data?
Minor Essential Revisions

a. The manuscript may be making a stretch by claiming to be first to use geographic information to link a population-based survey to an independently sampled health facility survey. It is always awkward to mention in a review, but I was involved in three MEASURE affiliated articles that used a dataset that linked the DHS to a facility census in Guatemala, see Bertrand JT, Seiber EE, and Escudero G (2001) and Seiber EE and Bertrand JT (2002), and Seiber EE, Hotchkiss DR, Rous JJ, and Berruti AA (2005).

Response: We improved the first sentence of the Conclusion section (Page 13, last paragraph) to the following: “This study is one among the few that use geographic information to link a population based survey data with an independently sampled health facility survey to analyze the association of the quality of family planning services with the use of IUD from public and private sources and the used of other contraceptive methods [25, 26].” We added the following references to reflex the statement in the References section:


6. Do the title and abstract accurately convey what has been found? No. Little of the paper’s results and discussion look at quality; mostly the focus are the general determinants of IUD utilization. See comment 2.c.

Responses: See response in 2.c

7. Is the writing acceptable? Minor Essential Revisions

a. “constraints” is misspelled in the first sentence of the last paragraph on page 12.

Responses: We corrected the spelling.

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests: I declare that I have no competing interests.
2. Discretionary Revisions

The paper is brief and well-written. It links data from women (2003 Egypt Interim DHS) living in the vicinity of service facilities (2002 Egypt Service Provision Assessment Survey) and attempts to correlate service quality with IUD use. The novelty is the use of GIS data in both surveys to link individual women with specific service facilities. Nevertheless, the authors do not make it clear as to how this type of linking is substantially better than the one used earlier, where individual women living are linked to the facility in the cluster.

While the paper will certainly contribute to the body of existing knowledge on service quality and contraceptive use, it does not add substantially new knowledge.

I have specific comments below.

a) The paper seems to have been driven by the variables and methodology and does not adequately reflect the country or program context in Egypt. For example, the Egyptian program invested in improving the quality of services through the Gold Star program. I assume that the SPA survey attempts to measure some of these improvements and other interventions. The authors could and should document some of these program initiatives, the rationale for them, and whether these could result in higher contraceptive use. Information on the Gold Star program can be obtained at http://www.jhuccp.org/pubs/ci/4/4.pdf.

Response: We aware of the Egypt Gold Star program that started from 1995 and concluded in 2000 to improving the quality of services in family planning. This study used data from the 2002 Egypt SPA which did not collect any information on the Gold Star program and we were not able to control for the indicators whether a facility is certified or not certified Gold Star during the period of 1995-2000.

b) There is very little discussion about the attributes about the method that can affect continuation. The IUD is a long-lasting method that can only be inserted/removed by trained providers. Unlike contraceptives such as the pill, condoms, or injectables, users cannot discontinue it at will.
Response: We acknowledge that this is one of the major constraints of the study in Page 13, paragraph 1.

c) The authors need to strengthen the text in the background section. A lot has been written in the area of quality of care, especially in the methodology of measurement, contraceptive continuation/discontinuation, and how these link. For example, there are many definitions and ways of measuring quality. In some contexts, measures of infrastructural availability, supplies, and equipment are used to measure quality—these are measures of the system’s readiness to provide services; alternatively, one can measure quality of care as the care that individual users report having received in exit interviews. Observations of client-provider interactions can also provide information on quality of care. These distinctions are important as they relate to the types of data required, their limitations and the extent to which they can be linked to client behavior.

Response: We agreed that there are many definitions and ways of measuring quality. For example besides infrastructural availability, supplies, and equipment that are used to measure quality, clients reports and clients perception of services quality are used in other previous study (see Page 4, paragraph 2). However, Services Provision Assessment survey collected information on these indicators from a convenient sample (not random sample) of observations client-provider interactions and client exit-interviews. Moreover, the survey collected these data from a subset (of non-random) of the facilities sample in the survey. Including this information in the analysis will substantially reduce the sample size of the health facilities. Nonetheless, these four quality components used in this study served as good proxies for total quality of services.

d) A few corrections are in order when referring to the paper by my co-authors and myself on Page 4. The measure of quality we used are from client reports and not from observations of client-provider interactions; the sites are the provinces of Davao del Norte and Compostela Valley and not Davao City.

Response: We made correction according to the reviewer comments and the 3rd sentence in paragraph 2 Page 4 changed to the following “In 2003, RamaRao et al. [2] measured the quality of family planning services based on the clients’ report of provider-client interaction; and they examined the relationship of the provider good practices with the adoption of the contraceptive methods at the clients’ follow-up visit in two the provinces of Davao del Norte and Compostela Valley in the Philippines during 1997-1998.”

e) The authors should cite the work of other researchers in this field so as to get a broader understanding of the issues in this area. Specifically, they need to refer to the work of Ali and Cleland on contraceptive pill continuation in Egypt (J. Biosocial Science, 2001; these authors linked data from the 1998 Egypt DHS-1 and the 1989 Service Availability Survey and attempted to see if some measures of readiness had an effect on continuation); Abdel-Tawab and Roter on client-provider interactions in Egypt (Social Science and Medicine, 2002); Blanc, Curtis and Croft (Studies in Family Planning 2002 on monitoring contraceptive continuation and linking with fertility and quality of care
using DHS data sets from 15 countries); Steele, Curtis and Choe (Studies in Family Planning, 2000 using similar DHS data sets in Morocco); Tripathi, Nandan and Salhan (J. Biosocial Science, 2005 on IUD discontinuation in India); Mai Do and Koenig (PAA paper 2005 on service environment and continuation using the Vietnam DHS);

Response: We added the followings sentences in the Conclusion section cited two of the references suggested by the reviewer that are relevant to this study: “Results in this study are similar to the results from earlier study in 15 developing countries, which show that quality is an important determinant of contraceptive use [27]. Moreover, findings from a study in Morocco also indicate that the distance to a public health center is associated with higher utilization of modern-method and lower discontinuation rates; while the presence of a private source for contraceptive method, i.e. a pharmacy, is associated with higher discontinuation rate [28].” We added the following references to reflex the statement in the References section:

f) There are many factors that influence women’s decisions to use or discontinue contraception. While service quality and background variables such as education and income are important influences, there are other factors as well and the authors should mention them. For example, women discontinue the IUD because of the side-effects associated with it. It will be good if the authors could include a control for experience of side-effects and if they are unable to do so, explain in the text why they are unable to do so.

Response: In the survey, the questions relative to discontinuation of methods because of the side effects were asked to respondents who previously used a method and currently (at the time of interview) did not use any method. The dependent variable of interest in this study is the use of contraceptive, which has four response categories: 1) not currently used any methods, 2) currently use IUD from public sources, 3) currently use IUD from private sources, and 4) currently use other contraceptive methods.

g) The measures of quality used in the paper are measures of readiness—availability of trained personnel, supplies and equipment; and descriptions of infrastructural space. The authors need to spell out for uninitiated readers the hypotheses as to why these measures of quality are expected to influence contraceptive use. While it is intuitively clear that a lack of contraceptives can impinge on use, it is less clear as to how availability of visual aids or service guidelines can influence care at facilities. The implicit assumption is that these measures of readiness influence the type of care that can be provided when clients consult with providers; the authors need to make this more explicit.

Response: We have discussed in the Background section and provided references on the definition of infrastructure and equipment as a quality component of the family planning services. This is one of the key components in the quality of services discussed by Brown

We improved the sentence in page 4 line 21 as follow: “Other family planning services quality indicators such as the availability of infrastructures have been shown to have positive effects on the use of contraceptive methods among new and returning clients discussed by Brown et al. and Gilson et al., using Bruce and Jane framework of quality of care [4, 5]. The availability of visual aids supports providers in demonstrating and educating the clients about the methods and the availability of guidelines reinforces the provider’s knowledge in administering the methods especially providers that work independently in the small and remote health facilities.”

h) The results section could be written better. They should interpret the findings and data from the tables for the reader instead of merely reporting them.

Response: We described the findings of the study in the Results section. We discussed the results with some interpretations in the Discussion sections and Conclusion section.

What next?: Accept after discretionary revisions