

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Understanding what women want: eliciting preference for delivery health facility in a rural sub-County in Kenya, A Discrete Choice Experiment.
AUTHORS	Oluoch-Aridi, Jackline; Adam, Mary; Wafula, Francis; Kokwaro, Gilbert

VERSION 1 – REVIEW

REVIEWER	Dr. Fabiola Moshi University of Dodoma Tanzania
REVIEW RETURNED	15-Apr-2020

GENERAL COMMENTS	<p>1. Resize the abstract by removing setting, participants and strength and limitation. The sub-heading primary and secondary outcome is not clear; only primary outcome which is women's preference can be seen also remove the repetition of study design in the sub-heading. Indicate the level of significance and the p value in the results part</p> <p>2. In the whole document re-work on citation, follow the journal guideline. You have to cite first then full stop and not full stop and then citation.</p> <p>3. in the method section; the section needs rearrangement, . In DCE, authors described the design and thereafter repeated the same on experimental design. The repetition should omitted and the design described adequately under DCE.</p> <p>Also sample size calculation is not clear, the calculated being 62.5 and a decision to go for 477 not clear.</p>
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REVIEWER	Indira Narayanan Georgetown University Medical Center, USA
REVIEW RETURNED	20-May-2020

GENERAL COMMENTS	<ul style="list-style-type: none"> • GENERAL <ul style="list-style-type: none"> o It is useful to document women's opinions using a DCE as an alternative to conventional methods. o It would be useful to to review the data for differences in choices between mothers coming for their first deliveries and those with experience with earlier births? • PAGE 4 <ul style="list-style-type: none"> o Lines 46-48- Correct language and punctuation. The words do not flow appropriately • Page 5 <ul style="list-style-type: none"> o Lines 26-29 – While respectful care is an extremely important component, it is not the only component of quality of care. These two components have been equated to being the “same” (eg. Line
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	<p>47-49 on p. 16). This point needs to be addressed appropriately throughout the article.</p> <ul style="list-style-type: none"> • Page 7 &8 o Table 1 : <ul style="list-style-type: none"> ♣ How were mothers able to determine the presence or absence of equipment? ♣ The term referral services should be clearly defined. Is it referral to the facility being evaluated or referral from that facility to a more advanced center? ♣ The link between the attribute “referral to a facility” and (a) Clean health facility and (b) Dirty health facility is not clear. Perhaps the attribute should be “Cleanliness of the facility”. At the same time, while these are listed in Table 1, they are not noted in Table 2; nor is it noted that this component was dropped or changed during pilot evaluation. • Page 12 o Line 28- It is noted that 86% of the women had secondary school education. This seems very good for women in a rural sub-county! In contrast only 60% of the heads of households had secondary school education. This might need some discussion as to the reason for this <p>APPENDIX 1</p> <ul style="list-style-type: none"> • Lines 17-19 -the question “Who do you think needs to be present?” is repeated. • Q. 75 – Is this where you originally planned to give birth or did you have to change plans o Ans are just No and Yes. This is not appropriate as the query actually has 2 components. How did you determine to which question the answer applied? • In the question on why the center was chosen, one option was availability of supplies and equipment? This is a very useful criteria for evaluation by a category of person with the appropriate knowledge, but how would the mother know what equipment and supplies are required. This needs to be explained clearly. • Having an answer such as Yes or No does not seem appropriate for the last question: “After you arrived at a hospital to give birth, did you see a doctor or only nurses and birth attendants?”
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REVIEWER	C. Christina Mehta Department of Biostatistics and Bioinformatics Rollins School of Public Health Emory University USA
REVIEW RETURNED	01-Jul-2020

GENERAL COMMENTS	<p>This is an interesting paper assessing delivery health facility preferences among rural women in Kenya. The authors assess delivery health facility concerns from relevant groups (pregnant women, health care providers, policy makers) using a discrete choice experiment model. The paper is informative and adequately answers the research question but the methodology could be made clearer and manuscript could use additional editing. Specific comments are noted below:</p> <ul style="list-style-type: none"> -Recommend another edit for grammar and word usage. -Response rate in abstract should be 98% according to numbers provided -In introduction, separate discussion on primary health care facilities from delivery facilities, or note the overlap between roles. -The final list of attributes is unsurprising. Did the focus groups
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	<p>contribute any additional attributes not previously in the literature?</p> <p>-Why are the levels of "referral to the health facility" described as "clean health facility" and "dirty health facility"? Is the attribute about cleanliness instead of referral? The results describe this attribute as "availability of referral health facility." Can please clarify?</p> <p>-There is a typo in the number of choice calculation: $(2^5) \times (3^1) = 96$</p> <p>-Was fractional factorial approach used on the original $n=96$ choices or a subset of $n=35$?</p> <p>-The final choice of $n=16$ is reasonable for respondents but reflects a removal of 83% of the choices. Could further clarification be provided on why certain choices were retained?</p> <p>-What is the referent group for the dummy coded variables?</p> <p>-Table 3: parity should be "≥ 2" for the second row</p> <p>-What is the distribution of facilities among respondents?</p> <p>-Please provide additional details on how respondents were given the DCE. Each participant was given only one set of 8 choices?</p> <p>-Sample size calculation section is not compelling as these are just rules of thumb and don't assure power for the given sample size</p> <p>-Appendix 1 notes that ethical approval was given by IRB at Strathmore but this is not listed in the Ethics section in the manuscript</p> <p>-In model specification section, recommend clearly stating details of modeling approach (baseline logit where referent group is "home delivery", state fixed and random effects and covariance structure) what model structure produced data for Tables 4, 5, 6. Would also state what information is drawn from these models and put in the tables.</p> <p>-Clarify how respondent characteristics (secondary education, age, marital status, main earner) were classified for investigation for interaction with attributes (e.g., was age left continuous? Was education dichotomized?). Curious about the relationship between main earner and marital status- if not married then must be main earner?</p> <p>-Inconsistent number of women with secondary education in results section vs Table 3</p> <p>-Are all of the women from rural households? Introduction notes the sub-county as semi-rural and some towns as peri-urban.</p> <p>-Please clarify the number of observations utilized in analyses (22368 vs 22566). Were these the $n=198$ dropped due to dominant choices? Previously it was stated that they were retained for analysis? How many participants was this?</p> <p>-Table 4, 5, 6: since cost has three levels, shouldn't there be two betas? Could also clarify what the referent group is for the covariates. Stars and p-value column seem redundant unless they are measuring different things? If so, please state in methods. --</p> <p>-Consider adding SE to Tables 5, 6</p> <p>-Table 5, ASC and cost p-value and stars significant levels are discordant?</p> <p>-Suggest clarifying that models only describe attribute*characteristic interaction for one characteristic at a time in the preference heterogeneity section (for example, "younger married women with a secondary education" is a synthesis of 3 different model results)</p> <p>-The limitation of not recruiting women who had home delivery is important. How many times was home delivery chosen in the sample?</p> <p>-Add limitations noted in the abstract to the discussion section of the paper.</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer 1			
Abstract	<ul style="list-style-type: none"> • Resize the abstract by removing setting, participants and strength and limitation. • The sub-heading primary and secondary outcome is not clear; only primary outcome, which is women's preference can be seen, also remove the repetition of study design in the sub-heading. • Indicate the level of significance and the p value in the results part 	<ul style="list-style-type: none"> • The abstract has been resized and the setting, and participants' bullets, strengths and limitations section have been removed. • The abstract section has been revised to remove the secondary outcome and retain the primary outcome only. The repetition of study design in the sub heading has been removed. • The level of significance and the p-value has been updated in the results parts of the abstract. 	Cover page
	<ul style="list-style-type: none"> • In the whole document re-work on citation, follow the journal guideline. You have to cite first then full stop and not full stop and then citation. 	<ul style="list-style-type: none"> • The citations for the whole document was reworked using the journal guideline. The full stop was put after the citation 	Whole document
Methods section	<ul style="list-style-type: none"> • The section needs rearrangement, In DCE, authors described the design and thereafter repeated the same on experimental design. The repetition should be omitted and the design described adequately under DCE. 	<ul style="list-style-type: none"> • The section has been rearranged. The authors have eliminated the elements of the first description of the design that speaks to the experimental design sub-section and hence omitted the repetition. 	Page 6.
	<ul style="list-style-type: none"> • Also sample size calculation is not clear, the calculated being 62.5 and a decision to go for 477 not clear. 	<ul style="list-style-type: none"> • We have revised this to the following providing calculation on 474 To obtain the sample size for the DCE We used the rule by Johnson and Orme (2003) to suggest the sample size required for main effects. This depended on the number of 	<ul style="list-style-type: none"> • Page 8

		<p>choice tasks (t) the number of alternatives (A) and the number of analysis cells (C). We had 16 choice-tasks (t) with 3 alternatives (a) and 3*2 analysis cells (c). $N > 500 * c / t * a = N > 500 * 6 / 16 * 3 = N > 62.5$</p> <p>. Using this formula we derived a minimum sample size of 62.5. We however collected a larger random sample of 474 women that would enable appropriate estimation of both main and interaction effects for the DCE. Our eventual sample size targeted sample size was 474 from six health facilities to satisfy the representativeness for the quantitative survey for the sociodemographic variables but also large enough power to provide results that were statistically significant for all relevant attributes.</p>	
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Reviewer No. 2

SECTION	COMMENT	RESPONSE	Reference in the revised paper
	<ul style="list-style-type: none"> It is useful to document women's opinions using a DCE as an alternative to conventional methods. 	<ul style="list-style-type: none"> Thank you for the comments on the usefulness of the manuscript as an alternative to conventional methods 	
Results	<ul style="list-style-type: none"> It would be useful to review the data for differences in choices between mothers coming for their first deliveries and those with experience with earlier births 	<ul style="list-style-type: none"> The data was reviewed for differences in choices for home delivery (the asc_optout in the choice model) between the primiparous women (first deliveries and multiparous women (more than one delivery). Upon analyzing the choice data of women's 	Appendix 7

		<p>parity, we found out that primiparous women (denoted by 1 in the RECODE column) overall chose a facility delivery twice as many times as home delivery (the asc_opt out). Similarly, the multiparous women chose the facility delivery twice as many times as (the asc_optout).</p> <ul style="list-style-type: none"> • Upon analyzing the differences between primiparous and multiparous women with regard to choose of the opt-out. We found out that women who were multiparous were more likely to choose the opt-out suggesting a dissatisfaction with their experience at the health facility. • We have included this in the results section 	
	<ul style="list-style-type: none"> • Correct language and punctuation. The words do not flow appropriately. 	<ul style="list-style-type: none"> • The language and punctuation was corrected to flow appropriately as shown in the revised manuscript as follows <ul style="list-style-type: none"> • “...Most strategies available for assessing quality of care received during childbirth in Kenya have focused only on either the health system inputs required, or satisfaction levels at the end of the continuum of care. Strategies are also based on national level assessments of quality of care such as service provision assessment and 	Page 5.

		demographic health surveys...”	
Introduction	<ul style="list-style-type: none"> o Lines 26-29 – While respectful care is an extremely important component, it is not the only component of quality of care. These two components have been equated to being the “same” (e.g. Line 47-49 on p. 16). This point needs to be addressed appropriately throughout the article. 	<ul style="list-style-type: none"> • We appreciate the comment. We have reviewed the lines mentioned and included other aspects of quality of care such as those related to the provision of care such as the availability of medical equipment and supplies • They can tell the care and can identify from their friends to purchase drugs from outside • They can easily determine if CS capacity by their own ANC experiences • The sentence has been revised to read as pasted below • “...However, they are able to assess the quality of the care and choose delivery health facilities based on the experience of care such as respectful care by health care workers and aspects of provision of care, such as the availability of medical equipment, such as a theatres for cesarean section during an emergency and drug supplies within the facility versus an outside pharmacy and referral services that includes transportation...” • We have also addressed this in other areas of the article such as the DCE sample section the availability of medical equipment and drug supplies was defined as easily observable equipment important to women such 	<p>Pg 5.</p> <p>Page 7</p>

		<p>as the theatre, for cesarean sections and incubators for premature babies. Women could easily determine availability of drugs at the health facility when they are sent outside of the hospital to buy essential drugs. Knowledge on both these attributes were also determined by conversations with other women from their social network. The availability of referral services was defined as the availability of a means of emergency referral transport to move the women from primary to tertiary level of care that could handle obstetric complications.</p>	
<p>Methods</p>	<ul style="list-style-type: none"> • Table 1: • How were mothers able to determine the presence or absence of equipment? 	<ul style="list-style-type: none"> • Table 1: Mothers were able to determine the absence of equipment through their own visit to the health facility antenatal care services (ANC) as well as from information from social contacts from family and friends who had visited the health facility • We have included a line to explain this in the description of the DCE sample page <p>“...The availability of medical equipment and drug supplies was defined as easily observable equipment important to women such as the theatre, incubators and the ability to buy drugs from an outside pharmacy...”</p> <ul style="list-style-type: none"> • We also have it in the DCE sample sub section as pasted below; • The availability of medical equipment and drug supplies was defined as easily observable equipment important to women such as the 	<p>Methods section</p> <p>Pg7</p> <p>Discussion section</p>

		<p>theatre, for cesarean sections and incubators for premature babies. Women could easily determine availability of drugs at the health facility when they are sent outside of the hospital to buy essential drugs. Knowledge on both these attributes were also determined by conversations with other women from their social network. The availability of referral services was defined as the availability of a means of emergency referral transport to move the women from primary to tertiary level of care that could handle obstetric complications</p>	
	<ul style="list-style-type: none"> The term referral services should be clearly defined. Is it referral to the facility being evaluated or referral from that facility to a more advanced center? 	<ul style="list-style-type: none"> The term availability of referral services was defined as "...the availability of a means of emergency referral transport to move the women from primary to tertiary level of care that could handle obstetric complications ..." And in the discussion section also as follows "...Referral availability at the health facility was defined at movement of women from the health facility where they first sought care to a higher-level health facility in the case of complications..." 	<p>Pg 7 DCE study sample section Discussion section Pg. 20</p>
	<ul style="list-style-type: none"> The link between the attribute "referral to a facility" and (a) Clean health facility and (b) Dirty health facility is not clear. Perhaps the attribute should be "Cleanliness of the 	<ul style="list-style-type: none"> Sincerest apologies, this was a transcription error There is only an attribute for referral to a facility and there should not be an attribute for clean and dirty health 	<p>Table 1 pg. 8</p>

	<p>facility". At the same time, while these are listed in Table 1, they are not noted in Table 2; nor is it noted that this component was dropped or changed during pilot evaluation.</p>	<p>facility in this sample.</p> <ul style="list-style-type: none"> The clean and dirty health facility has been deleted from Table 1 for clarity. They should not exist in this sample. 	
<p>Results Table 2.</p>	<ul style="list-style-type: none"> Line 28- It is noted that 86% of the women had secondary school education. This seems very good for women in a rural sub-county! In contrast only 60% of the heads of households had secondary school education. This might need some discussion as to the reason for this 	<ul style="list-style-type: none"> Thank you for catching this error, we apologize for the misspecification According to table 3 that details of the sociodemographic characteristics indicate that the proportion of women with a secondary education are 48% only whereas head of households with up to a secondary education is recorded as 53% This has been corrected 	<p>Page 12</p>
<p>Appendix 1</p>	<ul style="list-style-type: none"> Lines 17-19 -the question "Who do you think needs to be present?" is repeated. 	<ul style="list-style-type: none"> The second question reads what do you think needs to be present? A careful observation shows that it is not repeated 	<p>Appendix 1</p>
	<ul style="list-style-type: none"> Q. 75 – Is this where you originally planned to give birth or did you have to change plans <ul style="list-style-type: none"> Ans are just No and Yes. This is not appropriate as the query actually has 2 components. How did you determine to which question the answer applied? 	<ul style="list-style-type: none"> The second component in the original questionnaire belonged to question no. 76 and has been corrected as follows <p style="margin-left: 40px;">76. Did you have to change plans? If yes, why did you change your plans?</p> <p style="margin-left: 40px;">A. The baby came early and I had to go to the nearest facility</p> <p style="margin-left: 40px;">B. I wasn't able to afford the facility I originally planned on</p> <p style="margin-left: 40px;">C. I had more money that I</p> 	<p>Revised Appendix 2 Quantitative survey Question No. 76</p>

		<p>expected when the baby was born so I could go to a nicer facility</p> <p>D. No, didn't change plans</p> <p>E. Other</p>	
	<ul style="list-style-type: none"> In the question on why the center was chosen, one option was availability of supplies and equipment? This is a very useful criteria for evaluation by a category of person with the appropriate knowledge, but how would the mother know what equipment and supplies are required. This needs to be explained clearly. 	<ul style="list-style-type: none"> The equipment and drugs supplies that were assessed by the mothers included mostly easily observable equipment such as a theatre for cesarean section deliveries, oxygen capacity or incubators for holding premature babies. Most women interviewed had appropriate knowledge on this and first-time mothers were informed by family and friends within their social networks who were familiar with what equipment and drug supplies the health facilities had This has been briefly described in the DCE sample section mentioned above 	<p>Methods section</p> <p>DCE sample section</p> <p>Pg 7</p>
	<ul style="list-style-type: none"> Having an answer such as Yes or No does not seem appropriate for the last question: "After you arrived at a hospital to give birth, did you see a doctor or only nurses and birth attendants?" 	<ul style="list-style-type: none"> Sincerest apologies for the typing error. The question has been reviewed and the correct options for the answers have been provided. The answers range from a) Doctors b) Only nurses and c) Birth attendants This has been revised as follows <p>After you arrived at the hospital to give birth, who of the following did you see?</p> <p>A. Doctor</p> <p>B. Only nurses</p> <p>C. Birth attendants</p>	<p>Revised Appendix 2</p> <p>Quantitative survey</p> <p>Question No. 83</p>

Reviewer 3			
SECTION	COMMENT	RESPONSE	Reference in the revised paper
General comment	<ul style="list-style-type: none"> This is an interesting paper assessing delivery health facility preferences among rural women in Kenya. The authors assess delivery health facility concerns from relevant groups (pregnant women, health care providers, policy makers) using a discrete choice experiment model. The paper is informative and adequately answers the research question but the methodology could be made clearer and manuscript could use additional editing Recommend another edit for grammar and word usage. 	<ul style="list-style-type: none"> The positive remarks are well received and appreciated. Another thorough edit for grammar and word usage has been conducted. 	
Abstract	<ul style="list-style-type: none"> Response rate in abstract should be 98% according to numbers provided 	<ul style="list-style-type: none"> The response rate in the abstract has been revised from 95% to show 98% to concur with the numbers provided in the body of the paper 	Cover page.
Introduction	<ul style="list-style-type: none"> In introduction, separate discussion on primary health care facilities from delivery facilities, or note the overlap between roles. 	<ul style="list-style-type: none"> This has been done, in the introduction we have separated discussion on primary health care facilities from delivery health facilities to clarify that within this context with the free maternity services, the primary health facilities were upgraded to provide uncomplicated delivery services as seen below; “...Within this context there is significant overlap between several primary health facilities and delivery health facilities. With the free maternity services policy, health 	Introduction Page 3

		centers and dispensaries at the primary level of care were upgraded to provide uncomplicated births...”	
	<ul style="list-style-type: none"> The final list of attributes is unsurprising. Did the focus groups contribute any additional attributes not previously in the literature? 	<ul style="list-style-type: none"> Yes, we concur with you that the final list of attributes was indeed unsurprising. The focus group discussions contributed additional attributes not previously mentioned in the literature such as type of health facilities., qualifications of the health care worker, gender of the health care worker. Etc. Some of these were not ranked highly however some of them were not policy amenable- a requirement of DCEs. A full list of the attributes identified during the FGDs will be attached in as appendix to provide clarity 	New appendix 4 with the complete list of attributes identified during the FGDs.
Methods Table 1	<ul style="list-style-type: none"> -Why are the levels of "referral to the health facility" described as "clean health facility" and "dirty health facility"? Is the attribute about cleanliness instead of referral? The results describe this attribute as "availability of referral health facility." Can please clarify? 	<ul style="list-style-type: none"> Thank you for noting this difference. This is a typographical error carried over from the pilot. The levels for the referral to the health facility should have levels that read availability of referral services and unavailability of referral services respectively. This has been revised accordingly 	Table 1 Page 8
	<ul style="list-style-type: none"> There is a typo in the number of choice calculation: $(2^5) * (3^1) = 96$ 	<ul style="list-style-type: none"> The typo has been resolved to show that one alternative had three levels as shown $(2^5) * (3^1) = 96$ 	Experimental design Page 7
	<ul style="list-style-type: none"> Was the fractional factorial approach used on the original n=96 choices or a subset of n=35? 	<ul style="list-style-type: none"> The fractional factorial approach was used on the original N=96 to reduce it from 36 choice-sets(pairs) to 16 choice-sets. For clarity the 36 choice-set obtained from the NGENE software have been attached as an appendix 	Page 7 (Additional appendix 5 provided)

		for additional clarity	
Methods Experimental design	<ul style="list-style-type: none"> The final choice of n=16 is reasonable for respondents but reflects a removal of 83% of the choices. Could further clarification be provided on why certain choices were retained? 	<ul style="list-style-type: none"> Thank you for this observation: a selection of 16 choice-sets as a fractional factorial design reflected an overall removal of 83% of the choices. The reduction from the full fractional factorial was done by the experimental design NGENE software The appendix A will show how the design is reduced from 36 choice-sets to 16 choice-sets Certain choices that provide independent estimations were retained Most two-way interactions form aliases with three- way interactions that do not provide any new effect information These aliases (effects that are the same-between main effects and interaction effects), were removed automatically by the NGENE software) The software indicated that the 17% remaining choices within the fractional factorial design were sufficient to estimate both the main and interaction effects 	Additional appendix 5 with NGENE software output has been attached for clarity
Methods	<ul style="list-style-type: none"> What is the referent group for the dummy coded variables? 	<ul style="list-style-type: none"> The referent group for the dummy coded variables have been provided for each variable The reference categories were those that were the dominant choice for example good quality of clinical services, Kind and supportive health care workers, availability of medical equipment, availability of referral services. Short distance to the health facility and the lowest price 3000 	Experimental design Page 6

	<ul style="list-style-type: none"> Table 3. Parity should be ≥ 2 for the second row 	<ul style="list-style-type: none"> Table 3 the parity variable has been adjusted to ≥ 2 	
	<ul style="list-style-type: none"> What is the distribution of facilities among respondents? 	<ul style="list-style-type: none"> The distribution of the type of health facilities utilized amongst respondents was 74% public, 19% private and 6% home deliveries. 	Table 3 has been edited to include the distribution of the type of health facility Pg 13.
Methods Experimental design	<ul style="list-style-type: none"> Please provide additional details on how respondents were given the DCE. Each participant was given only one set of 8 choices? 	<ul style="list-style-type: none"> We provided the following statement. The choice-sets were grouped into two sets, and each respondent was presented with a choice card with eight questions in a single block. We will revise to provide clarity by saying. "...Each choice-sets contained 16 questions. We then divided each choice set into two sets with 8 questions each and each respondent was presented with a choice-set with eight questions in a single block..." 	Experimental design Page 7.
Methods	<ul style="list-style-type: none"> Are all of the women from rural households? Introduction notes the sub-county as semi-rural and some towns as peri-urban. 	<ul style="list-style-type: none"> No, not all of the women are from rural areas. A few women were from areas that can be defined as peri-urban near flower farms near the town area and others from pastoralist areas. This has been articulated further in the methods section as seen below "... It is composed of peri-urban settlements, and includes agriculturalist and pastoralist populations within Nakuru County..." 	Study setting Page 6
Results	<ul style="list-style-type: none"> Please clarify the number of observations utilized in analyses (22368 vs 22566). Were these the n=198 dropped due to dominant choices? Previously it was stated that they were retained for analysis? How many 	<ul style="list-style-type: none"> The number utilized in the analyses was 22,368. We had put in 22566 observations and included them in the analysis but some observations (n=198) were dropped automatically due to dominant choices by 	

	<p>participants was this?</p>	<p>the state software.</p> <ul style="list-style-type: none"> • We have dropped the statement that said that we included the dominant choices in our analysis as it is conflicting with what we did • The sample was originally 474 corresponding to 22,566 choices. After the dominant choices were dropped the sample was reduced to 466 participants. • To check this, you can calculate $(22,368/16 \text{ choice sets } /3 \text{ alternatives})$ 	
Results	<ul style="list-style-type: none"> • -Table 4, 5, 6: since cost has three levels, shouldn't there be two betas? Could also clarify what the referent group is for the covariates. Stars and p-value column seem redundant unless they are measuring different things? If so, please state in methods. – • Consider adding SE to Tables 5, 6 	<ul style="list-style-type: none"> • Cost was considered in the model as a fixed effect that was linear in nature(continuous) and therefore there will be one Beta coefficient for the cost variable • The reference group for the covariates has been edited in and provided in Table 4 5 and 6. • The p-values show the magnitude of the statistical significance. We have edited the significance and represented them by stars only • The robust SE's have been added to tables 4,5 and 6 • Because of space constraints the primary education and age category an interaction is in the complete table 6 in the appendix 6 	Tables 4.5 and 6
Methods	<ul style="list-style-type: none"> • In model specification, recommend clearly stating details of the modeling approach(baseline logit where referent group is “home delivery” state fixed and random effects and covariance structure) what model structure produced data for 	<ul style="list-style-type: none"> • This modeling approach has been specified as follows; • The five variables that described the attributes of place of delivery in the utility model above were entered into the model as random parameters whereas the cost variable was entered as a fixed variable 	Page 11 and Page 12

	<p>tables 4, 5 , 6. Would also state what information is drawn from these models and put in the tables</p>	<ul style="list-style-type: none"> • We have also stated that the information that is drawn from the models are the parameter estimates, the random error and the significance as follows • The Robust Standard Errors shows the level of error. These have been shown in tables 4,5 and 6. 	
<p>Methods</p>	<ul style="list-style-type: none"> • Clarify how respondent characteristics (secondary education, age, marital status, main earner) were classified for investigation for interaction with attributes (e.g., was age left continuous? Was education dichotomized?). Curious about the relationship between main earner and marital status- if not married then must be main earner? 	<ul style="list-style-type: none"> • More detail has been provided on the classification for investigation for interaction. • Education was measured in three categories, primary, secondary and tertiary education. We formed two dummy variables s1 and s2 representing a comparison between primary and secondary education to tertiary education. The results for the comparison to secondary education are in the main manuscript. The remaining results for the comparison to primary education are in Table 6 the Appendix 6 which has the full results • Age was originally measured in continuous form, we did re-analyze the data and categorize age into three categories: 18-24 years, 25-34 years and 35-45 years. We then formed two dummy variables a1 and a2 to represent the first two age categories. The results presented in the body of the paper are contained in the manuscript and the a1 are contained in a Table 6 in Appendix 6 • Marital status and main earner had one dummy variable each and 	<p>Data Analysis and model estimation page Appendix 6</p>

		<p>education had two dummy variables created that were interacted with the attributes. The methods section that details the interactions has been edited to include this classification</p>	
Discussion	<ul style="list-style-type: none"> Suggest clarifying that models only describe attribute*characteristic interaction for one characteristic at a time in the preference heterogeneity section (for example, "younger married women with a secondary education" is a synthesis of 3 different model results) 	<ul style="list-style-type: none"> This suggestion is well taken and we have revised our discussion to handle one sociodemographic characteristic at a time in the preference heterogeneity section 	Page 17.
Discussion Limitation	<ul style="list-style-type: none"> The limitation of not recruiting women who had home delivery is important. How many times was home delivery chosen in the sample? -Add limitations noted in the abstract to the discussion section of the paper 	<ul style="list-style-type: none"> Home delivery was a minority choice with only one third choosing the opt out alternative which is represented by the alternative specific component. This was selected by 155 women 7456 observations/16 choice-sets/3 observations (See Appendix 8) It is possible that these women opted for the home delivery because the specification of the attributes in the DCE did not meet their desires. We add this to the discussion to clarify women's preference for home delivery in this site The limitations noted in the abstract have been added to the discussion section of the paper 	<p>Appendix 8</p> <p>Discussion Pg 19</p> <p>Limitations Pg 20</p>

REVIEWER	Dr. Fabiola University of Dodoma-Tanzania
REVIEW RETURNED	14-Aug-2020

GENERAL COMMENTS	1. Sub-headings of abstract should be study objective, study design, results and conclusion, remove strengths and limitations from the abstract 2. Consistency font size throughout the manuscript especially tables
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REVIEWER	C. Christina Mehta Department of Biostatistics and Bioinformatics Rollins School of Public Health Emory University USA
REVIEW RETURNED	20-Aug-2020

GENERAL COMMENTS	The revised version of the paper is much improved in readability and clarity. The majority of the previous comments have been addressed or acknowledged. A remaining few comments/edits for the current draft: - In background section, please define UNFPA - Strongly recommend editing for brevity. The current draft is quite long and could be trimmed while still retaining the main ideas and much of the detail. - Recommend adding to methods section that income was treated continuously as this would not be intuitive based on DCE study design - Appendix 6 is missing (also unclear- are there other appendices after Appendix 1?) - Acknowledge that stratification by parity results are not shown
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VERSION 2 – AUTHOR RESPONSE

Reviewer: 1 (Moshi, Fabiola)

1. Sub-headings of abstract should be study objective, study design, results and conclusion, remove strengths and limitations from the abstract

Response:

The abstract has been amended to include the study design, settings and participants. The strengths and limitations are a compulsory item as per journal guidelines,

2. Consistency font size throughout the manuscript especially tables

Response: The font size has been adjusted through out the manuscript including the tables to size 11.

Reviewer: 3 (Mehta, C. Christina)

The revised version of the paper is much improved in readability and clarity. The majority of the previous comments have been addressed or acknowledged. A remaining few comments/edits for the current draft:

1. In background section, please define UNFPA

Response: UNFPA has been defined as United Nations Population Fund

2. Strongly recommend editing for brevity. The current draft is quite long and could be trimmed while still retaining the main ideas and much of the detail.

Response: The entire article has been edited extensively for brevity.

3. Recommend adding to methods section that income was treated continuously as this would not be intuitive based on DCE study design

Response: I have added that the cost variable was treated as a continuous variable.

4. Appendix 6 is missing (also unclear- are there other appendices after Appendix 1?)

Response: Appendix 6 has the STATA output for the interaction models and has been included. There are other appendices 1, 2, 3, 4 and 5 but were specified for editor view only. This has been changed to allow the reviewers to also view the appendices.

5. Acknowledge that stratification by parity results are not shown

Response: We have put in a line that says that the results on the parity are not shown in the table.