**Author’s response to reviews**

**Title:** SOCIO-DEMOGRAPHIC DETERMINANTS OF UNMET NEED FOR FAMILY PLANNING AMONG MARRIED WOMEN IN PAKISTAN

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**Author’s response to reviews:**

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Editor Comments</th>
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<tbody>
<tr>
<td>1</td>
<td>The manuscript should be proof read by a professional editor.</td>
<td>(Comment has been incorporated)</td>
</tr>
<tr>
<td>2</td>
<td>Consider revising the title of the study.</td>
<td>(The title of the study has been revised as “Determinants of Unmet Need for Family Planning among Married Women in Pakistan”)</td>
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<td>3</td>
<td>The introduction and discussion should be focused and succinct.</td>
<td>(“Introduction” and “Discussion” have been revised and improved (please see page 2-4 &amp; page 7-9))</td>
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Comments of 1st Reviewer

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<td></td>
<td>General Comments</td>
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<tr>
<td>1</td>
<td>English needs to be proof read</td>
<td>(Proof reading has been done.)</td>
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<tr>
<td>2</td>
<td>Background: needs revision</td>
<td>(Background has been revised (please see page 2-4)).</td>
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<tr>
<td>3</td>
<td>Data: should be mentioned before the methods.</td>
<td>(Comment incorporated (see page 4))</td>
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<td>4</td>
<td>Discussion: should be a separate section. It needs to be properly developed. There are a few points mentioned but they need to be fully developed.</td>
<td>(Incorporated at page 7-9)</td>
</tr>
<tr>
<td>5</td>
<td>The conclusion, as it stands, seems inadequate, as it only repeats the findings already shown. Recommendations should be policy recommendation and should probably be part of the discussion/conclusion and not a separate section. Authors need to familiarize themselves with other papers on the journal to see the style and the sections.</td>
<td>(Incorporated at page 9)</td>
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**Specific Comments**
It can help to reduce fertility rate, as a result of fertility decline, a large working-age people exist in the population (Allen, 2007) Unclear (In order to make it more clear, it has been changed as “Reduction in fertility decreases dependency ratio in the economy because as a result of such decline a large cohort of working-age adults enters the population, outnumbering children and the elderly. This decreases dependency ratio which in turn tends to boost economic growth through its positive effects on savings and investment (Allen, 2007; Ashraf et al., 2013; Brander and Bowrick, 1994; UNPF, 2005). Reducing birth rates enhance economic growth by bringing improvement in the education, human skills, health and productivity of the people (Cleland et al., 2006)”. Please see page 3 line 8-13)

For instance, for each dollar spent in family planning services, Egypt and Thailand saved $31 and $16 respectively”. Unclear. Do you mean per woman? Save on what? Millions? (In revised version, this statement has become insignificant. So, we have skipped it.)

The word "Unmet" needs to be lower case. Need to be consistent with the use of upper cases in the middle of a sentence. (Incorporated)

Need to specify which parts of Europe, as it reads contradictory to what it is stated at the beginning of that paragraph. You mean all of Europe? Or East Europe? (This comment has been cleared on the page 3, line 13 as “About 45% women, on average, had UMNFP in Asia, North Africa, and overall Europe during the period of 2005-2011.”)

Line 12-14: "The government sector is the main provider of information and facilities regarding family planning to the poor and this sector also provide female sterilization services”. Only information, facilities and sterilization? What about the rest of the services e.g. LARC and short-term contraceptives? (Introductory section has already been thoroughly revised and improved).

Amounts in Rupees need to be also in USD. (Introductory section has already been thoroughly revised and improved).

The regions of Pakistan are mentioned in the introduction but then they go missing in the analysis. "… different regions of the country." Explain the level of development in each region, which would make it clear when presenting the figures from richest (Islamabad) to poorest? For someone who is not familiar with the regions in Pakistan is unclear to see if %s of contraception correspond to the level of development in the region. (The discussion about different regions of the country seems to be redundant. Hence, we have removed it in the revised version of the article).
Line 39: "The non-use of contraceptive in rural women is 69% and in urban women is 55% (PDHS, 2013)" Redundant. Those should be figures for unmet need for contraception instead. (Removed)

Line 49: "This high maternal mortality rate in the country may be a result of insufficient health facilities and prevalence of unmet need for family planning. This study is an attempt to investigate the socio-economic determinants of UMNFP among married women in Pakistan"

Based on this, it seems the paper tries to examine unmet need as a cause of maternal mortality. The actual objective is fine, but the sentence before the objective is misleading what the paper is about, particularly as no further mentioned is made about maternal mortality. That is a good point that needs further development either in the Discussion section, or Background/Introduction section or both depends on what exactly are you trying to argue. (We are focusing in this paper to investigate the important determinants of UMNFP among married women in Pakistan. It’s true that the mentioned line seems to be irrelevant with our topic. So, we have removed it.)

Line 4: Do not see how age is a socio-economic factor? Then, you are investigating social, economic and demographic factors. (According to editor’s comments, we have changed the title as “Determinants of Unmet Need for Family Planning among Married Women of Pakistan” instead of “Socio-Economic Determinants of Unmet Need for Family Planning among Married Women of Pakistan”).

From line 15 onwards: is it "probable" or likely? Probably has a connotation to probabilities It’s appropriate to use likely instead of probable. (Comment has been incorporated.)

Is it informative or informed women? (Changed as suggested).

Results

On page 4 it says that only 35% of women are users of contraception but in the results section it says that 78.7% are (?). I think all the figures are from 2013, so why are these numbers so different? Not sure where that 78.7% is coming from. The correct calculation for UMNFP exist in Pakistan where 56% of married women of reproductive age intend to use family planning services. However, only 35% women were using these services. The prevalence of the UMNFP in the country is 21%. But mistakenly we mentioned 78.7% as users of contraceptives. (It has been corrected).
Line 44: "but are not receiving" Why should they receive them? Using rather than receiving? 
Unclear (Incorporated).

15 Line 46: "Results of previous studies found that unmet need decreases by increasing age" It is written in an unclear way. (Incorporated (please see page 8 line 1-3)).

16 Line 56: "In this study, the UMNFP is higher in rural areas as compared to urban areas" needs to go before presenting results by area of residence. Results should focused on the odd ratio presented on the tables i.e. urban are less likely than … (Incorporated at page7 line 3-5 as “In urban areas, likelihood of UMNFP, UMNS and UMNL has been found to be lower than rural areas”).

17 Page 9
Line 37: "Unmet need is lesser after the fourth child because those women may not want to have family planning methods before they have 3-4 children but after that they want no more children and want to adopt for family planning methods." Rephrase to make it clearer. (Rephrase as “Number of children of women shows a statistically significant relationship with UMNFP, UMNS and UMNL where women having four children have the lowest likelihood of facing UMNFP, UMNS and UMNL. Results of multinomial logistic regression show that likelihood of UMN is highest among women having one child followed by women with two children.” Please see page7 line 14-19)

18 Line 47: "rich people" the results are about household wealth. Be consistent with the variables used.(Incorporated).

19 Line 12: mass media. Creates awareness: develop more in the discussion section. (Done (Please see page 9))

Comments of 2nd Reviewer
Sr. No. Comments Response
1 Title
Based on your result here what makes this study to be specific to socio-economic determinants?
(The title of the paper has been revised).

2 Abstract
I prefer to rewrite this statement "……unmet need for family planning still exist in the country." It is better to explain about level of existence. Simply, existence of the unmet need may not have public health significance. (Incorporated. Please see page 2, line 7-8).
3 The way you expressed fear of side effect under abstract was as ordinal data (....more fear of side effect for using contraceptive methods) but on methodology part it was analyzed as dichotomous. (Incorporated)

4 This result is not clear for me "....uneducated younger women who belong to poorer household....." the way you analyzed on the result par not looks just like your expression here. (Discussed in more clear way).

5 The conclusion lacks focus. Your title was mainly about socio-economic determinants but I don't think that the conclusion shows the implication of your finding from this factors. Particularly fear of side effect is not socio-economic factor. (The title of the study has been revised and we have tried to be more focused while discussing results and presenting the conclusion of our study. Please see page 7-9)

6 Background

Some of the references are very old while there are a new update about the information they convey.

(Background section has been improved. Revisions have been made according to the comments. Please see page 3)

7 There are many grammatical error and there are also vague sentences. For instance, this statement is unclear "The growing level of UMNFP is an important issue in under developed countries (Westoff and Bankole, 1995)" and the reference is also too old while it is about rapidly changing information.

(Incorporated).

8 The flow of write up is not well organized. You have tried to mention many literatures under the background section but you again added another section as literature. I don't think this also in-line with the journal protocol. This also increased the volume of the manuscript.

In general the background needs extensive rewrite with up-to date information. (The article has been improved in the light of comments).

9 Methodology

The way you operationalized the EMM is not clear. "EMM = Exposure of Mass Media has been classified into two categories i.e. heard a family planning message and no heard a family planning message." Is it ever hear of FP information? or ... what is the timing? (This variable has been clearly explained in methodology section. Please see page 5, line 23-26).

10 Please give title for section under "METHODOLOGY AND DATA SOURCE" where you expressed about the model and variables.
While analyzing wealth index how do you treated urban and rural residents? Have you used the same tool for urban and rural? Are the assets for urban and rural residents the same in Pakistan or ....? (Wealth index has been constructed by Pakistan Demographic and Health Survey. Different assets and characteristics of household have been taken into account for the construction of index through Principal Component Analysis. Despite the flaws of the index as pointed out by you, it can give good (if not accurate) information regarding the wealth status of households. In the absence of any other data. Wealth index can be a better proxy to represent the wealth status of a household).

11 Result

What is the need of these statements together "Description of different socio-economic characteristics of married women who are respondent in our study and perception about fear of side effect for contraceptive use is presented in Table 1. Table 1 shows the description of different socio-economic characteristics of our respondent women and their perceptions about fear of side effects." (Incorporated)

12 The way you wrote the statements in the result section is not to the standard and understandable. For instance "We see in table 1 most of the women are in age-group 20-39, with 15.0% in 20-24, 20.0% in 25-29, 17.9% in 30-34 and 16.9% in 35-39 age-groups." Not written with standard English and "According to region of residence, 52.8% rural women whereas only 46.6% urban women." Is not understandable.

I haven't seen the way you measured the knowledge of family planning methods and but you reported as knowledge is equal to simple Exposure of Mass Media (hearing of information about FP) which couldn't be the case. (This has been rephrase as “most of the respondents (69.8 %) fall in the age-group of 20 years to 39 years. Similarly, the highest number of respondents (20%) lie in the age group of 25-29 and the lowest number of respondents (4.2%) fall in the age group of 15-19”. Incorporated at page 6, line 14-16).

13 The way you reported the result of FP information and consequently FP use is not in harmony. The expression "..... 73.7% have knowledge but the use of family planning methods is only limited to 78.7%." for me it is not limited but above expectation

Don't you think that this study has no important limitation to be considered while using the result? For instance exclusion of some key c.(It was not reported correctly. Corrections have been done).

14 Your conclusion is direct copy of your result and too many. The conclusion should be the implication of the result.

Why you gave more focus to fear of side effect as a determinant including in conclusion? (We have tried our best to improve it in our revised version).
15 Your recommendations are not targeted and some of its part seems another discussion/result section. (Incorporated. See page 9)

16 On your tables how could we know the significance of the ORs since there is no confidence interval or P-value? Also you haven't showed for which variables you have controlled for while assessing the determinants. (P-values have been reported in table 2).