

## Peer Review Report

# Review Report on Maternal healthcare services utilisation and its associated risk factors: A pooled study of 37 low- and middle-income countries

Original Article, Int J Public Health

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### EVALUATION

#### **Q 1** Please summarize the main findings of the study.

The article presents important analyzes for public health by studying the use of maternal health services in a group of low- and middle-income countries.

#### **Q 2** Please highlight the limitations and strengths.

The scope of information is comprehensive and can be useful to managers and health professionals. The main limitations are in the discussion and it is necessary to clarify the presentation of the results.

#### **Q 3** Please provide your detailed review report to the authors. The editors prefer to receive your review structured in major and minor comments. Please consider in your review the methods (statistical methods valid and correctly applied (e.g. sample size, choice of test), is the study replicable based on the method description?), results, data interpretation and references. If there are any objective errors, or if the conclusions are not supported, you should detail your concerns.

Below are some considerations for the Methods, Results and Discussion sections.

1. The authors should list the 37 countries in the Methods, as the reader will only find them in Figure 1 and Table 1.
2. I understand that the availability of the data makes working with a reproductive age restricted to 15 to 49 years. It is known that there are already countries that have increased this range to 10 to 49 years and, due to the high incidence of pregnancies in girls before the age of 15. This could be an aspect to be considered in the discussion.
3. I was in doubt about the total number of records: is there a problem with the spelling of the number? Would it be 1,296,281?
4. For the outcome, women who met the criteria were considered – at least one (1); thinking about comprehensive care, why were those women who met the four (4) criteria not classified as “utilized”? Keeping the decision of constructing the variable, the authors could describe in the results how the distribution was in each criterion and in the set. Thus, readers would have more information about more and less deficient factors.
5. The measure of effect provided by logistic regression – odds ratio – tends to overestimate the true prevalence ratio in cross-sectional studies when the outcome prevalence exceeds 10%; and this distortion increases with increasing prevalence. Given the large numbers of samples, perhaps the proper use of the effect measure would not bring very different results, but would certainly be more correct from an analytical point of view.
6. It also seems that a hierarchical model was not used to explore the determination of the outcome, with the explanatory variables being adjusted by the statistical criterion only. Even maintaining this analytical option, the authors should comment on it in the discussion of the findings.
7. In the first two paragraphs of the results there is conflicting information for the prevalence of use: was it 33.7% or 27.1% of women? This doubt also appears in Tables 1 and 2, as I do not understand the difference between “YES use” and “prevalence of use”. Authors must clarify and justify.

8. Consistent with the multivariate analysis, the discussion presents a succession of paragraphs, one for each factor studied, without highlighting the relationships between them, as if they did not exist; for example, poorer women are more likely to be found in rural areas and this affects their schooling, autonomy and exposure to the media.

9. I also missed a discussion about the different health systems in the countries, it seems that the use depends only on the individual characteristics of women, without considering differences in the provision of services and access. Would women residing in countries with more inclination to public and universal health systems have more use?

10. Does the husband's education variable assume that all women had a husband? How were those who lived without a husband treated?

11. The woman's age and the age at the first child show high collinearity; the same for family composition and number of children in the household. Even if statistically this collinearity has been controlled, the authors should bring it up for discussion.

#### PLEASE COMMENT

**Q 4** ▶ Is the title appropriate, concise, attractive?

Yes.

**Q 5** ▶ Are the keywords appropriate?

Yes.

**Q 6** ▶ Is the English language of sufficient quality?

Yes.

**Q 7** ▶ Is the quality of the figures and tables satisfactory?

Yes.

**Q 8** ▶ Does the reference list cover the relevant literature adequately and in an unbiased manner?)

Yes.

#### QUALITY ASSESSMENT

**Q 9** ▶ Originality



**Q 10** ▶ Rigor



**Q 11** ▶ Significance to the field



**Q 12** ▶ Interest to a general audience



**Q 13** ▶ Quality of the writing



**Q 14** ▶ Overall scientific quality of the study



#### REVISION LEVEL

**Q 15** ▶ Please make a recommendation based on your comments:

Minor revisions.

