Reviewer's report

Title: Maternal near-miss and mortality in Sayaboury Province, Lao PDR.

Version: 2 Date: 30 June 2014

Reviewer: Pakhee Aggarwal

Reviewer's report:

Major compulsory revisions

Methods:
1. The study period was August 2010 to September 2011, in accordance with women having their LMP between August and December 2010. A normal 40 week gestation is 9 months + 7 days. That makes someone who had their LMP on 31st Dec to be 40 weeks on 6th Oct. Add to that 42 days as per definition of follow up which makes it another 6 weeks. Plus the authors have defined term gestation upto 42 weeks, and as per the given data, about 50 women delivered beyond 42 weeks. So in reality, the follow up period should extend to end of November for the last patient who had LMP in the end of December and delivered post dated (48 weeks at least from 31st Dec). This is a major flaw in the description of methods.

2. The article says ‘recruited pregnant women were visited daily during the study period...’ That is far more than the WHO recommendation for antenatal care. Is this due to the study protocol or such intensive care is usually the norm in these villages? Also, what parameters were checked at each visit? Was it symptoms? Or BP? Or Urine testing?

3. This was a prospective study that started even before ethical clearance for the same was approved. Is that routine where this study was carried out, as my understanding is that all studies need ethical clearance before being carried out.

4. What was the means of assessing for organ dysfunction of the various systems? This should be specified in some detail.

5. ‘, limitation of the MCH staff and facilities at the district hospitals might be the important factors that did not allow investigators to apply full WHO criteria to detect a maternal near-miss. This was due to a number of factors: (a) the laboratories at the district hospitals had a limited capacity to confirm near-miss cases; (b) the supply of donated blood was inadequate; in the four study hospitals only the provincial hospital had a blood bank, although two district hospitals did have blood stores; and (c) there was a lack of medical equipment and alternative facilities for the care of severely ill patients at the district hospitals. Only the provincial hospital had an intensive care unit. As a consequence, some cases were probably not classified as near-misses because the severity of their condition was unable to be confirmed by the existing facilities’ All of these would have inflated the statistics of maternal mortality which was not the case, so it is unlikely this lead to under reporting of near miss cases.
However I do feel that the criteria for diagnosing near miss could have been made more adaptable to the situation at hand, i.e. given the limitations of lab and blood backup, and relied on the next best indirect evidence to diagnose it. More so, as it was a prospective study and the parameters for evaluating the end result could be defined.

Minor essential revisions

Background
1. 4th para: MHC for maternal and child health
2. 5th para: ‘An annual reported of Sayaboury PHO 2009 showed that 39% of pregnant women delivered in the hospital and 61% at home delivered’: English needs revision: delivered at home.
3. ‘The referral system for pregnant women is ill-equipped for the selection of appropriate options, especially when they are in danger of developing some complications.’ : too wordy, the language needs to be simplified

Methodology
1. 243 villages and only 1200+pregnancies over 6 months: what was the population of these villages and what proportion were women?
2. ‘confirm the diagnosis of a MNM using CRF” : what is CRF? It should be expanded at first mention.
3. The tense of this para is sometimes present sometimes future tense.. this needs revision.
4. What was the role of the authors in data collection, i.e. what was the source of the data for the authors?
5. The description of Table 1 in text form is too detailed, only the salient points should be mentioned in text to avoid duplication of table info. Same goes for descriptions of tables 2, 3, 6.
6. ‘They had prolonged duration of labour from the latent phase of labour to fetal expulsion for more than 12 hours in multiparous women, 45 cases and more than 24 hours in nulliparous women, 28 cases’ : English needs revision.
7. What were the underlying medical conditions included in the study?

Discussion
1. From the huge difference in numbers from previous published literature, could it be that more intensive healthcare for the purposes of the study accounted for such low numbers of morbidity and mortality? Or is it because the 4 districts chosen do not accurately reflect the situation of the whole province?
2. ‘The local co-coordinators (VHV, TBA, MCH health center staff) might have difficulties in the concept and process of MNM identification and led to miss some MNM in the communities’ : English needs revision.
3. ‘Our findings show the mortality index (MI) for 15%, compare to 8.5 % in the study of Cecatti et al to evaluate WHO criteria for maternal near miss and death related to organ failure in Brazil [25]. and 12% of Thomas et al study used of
organ-failure based criteria for maternal near miss in Southern Malawi’: English needs revision.

4. ‘TBAs in the village and local coordinator at the health centers might had limited to confirm MNMs and diagnoses of organ dysfunctions at the district hospitals were limited by poorly resourced supports, such as the lack of access to good laboratory techniques and modern medical equipment, limited the supply of donated blood transfusion’: English needs revision

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

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests