Reviewer’s report

**Title:** An analysis of risk factors of non-fatal drowning among children in rural areas of Guangdong Province, China: A Case-Control Study

**Version:** 2 Date: 17 September 2009

**Reviewer:** Ed F van Beeck

**Reviewer’s report:**

This is an important study on a largely neglected topic. The study has revealed interesting results, but some further explanations and reflections are needed before publication.

Major compulsory revisions.

1. In the part on study subject no information is provided on the number of eligible participants. Only absolute numbers of respondents are provided and no response rates are calculated. This should be added to the manuscript. It should be discussed whether a highly selected sample of cases could have been drawn or not.

2. It seems as if different questionnaires were used for cases and controls respectively. This would mean that interviewers were not blinded and the results could be biased (e.g. more 'hunting of risk factors' by the interviewers among the cases). This issue should be explained in the methods section and potential bias should be discussed.

3. The case definition should be more clearly described. It seems as if the WHO definition as reported by van Beeck et al was used. Or were any cutt-off values used, e.g medical treatment? If a broad case definition is used this could affect the results. For example, persons with poor swimming skills may interpret a certain event as drowning, where persons with good swimming skills see a similar event as water fun. Maybe this could also explain unexpected results, such as no supervision as a protective factor. The potential effect of the case definition on the risk and protective factors found, should be discussed.

4. How were age and gender dealt with in the analyses? I would like to see effects of both age and gender in the bivariate and multivariate models, before concluding that males have increased risks.

5. Recent work of Brenner et al (Arch Pediatr Adolesc Med 2009;163(3):203-210) should be included in the discussion, where the effect of swimming skills is analysed.

6. I am not convinced that the conclusion is right that developing and developed countries have such different risk factors. Too few case-control studies in both types of situations have been conducted so far. I think the study should conclude
that it confirms that water exposures and poor swimming abilities are major risk factors for nonfatal drowning.

Minor essential revisions

1. The authors state that little is known about drowning in developing countries, but could they summarize the existing knowledge, including from Rahman et al (injury Prevention 2009;15:75-79)?

2. Can more information on the most common water exposures in the Province be provided? Is there a coast line? Or an important river or ponds or wells etc?

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

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