Reviewer's report

Title: Increased prevalence and incidence of anemia among adults in transforming rural China: Two cross-sectional surveys

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Reviewer: Faruk Ahmed

Reviewer's report:

This study reported the prevalence and incidence of anaemia among adults in rural Deqing County, Zhejiang Province, China. The authors have conducted a repeated cross-sectional survey in 2006 and 2008, and followed up a cohort from 2006-2008. While this is interesting study, I have several comments on this work:

Methodology poorly described. The authors must describe how the samples were selected for cross sectional study. For cohort component- eligibility criteria are not clear. Figure 1 confusing, i.e. the box saying prevalence in 2006 (I guess this total samples were available for haemoglobin measurement).

Discussion is poor. Merely compared the prevalence and incidence of anaemia among study population with other studies. One would have expected more discussion on why 45 years and above have higher incidence of anaemia than other age group. Why has men higher anaemia rates than women aged 45 and above?

Why were the prevalence and incidence higher when using WHO criteria than using Chinese criteria? (Is it not expected- as Chinese criteria used higher cut-off). Further, relevance of using Chinese criteria needs be discussed. Any suggestion for the future investigation – which one to use and why?

Further, general issues with determining anaemia by haemoglobin needs to be pointed out especially when describing repeated surveys. i.e. about 20% variation of anaemia is expected due to the regression towards mean.

Incidence data needs to be interpreted properly. As mentioned in the introduction- rapid urbanization is taking place is rural China. What is the impact of this with incidence of anaemia in this population?

In the limitation the authors have indicated measurement error. The authors should mention whether they have used any control haemoglobin and whether they have any information on inter-assay and intra-assay co-efficient of variation data. The study population were from a selected area, may not be representative of all rural areas in China- must be mentioned in the limitation.

Finally, the take home message for the reader is not clear.

Level of interest: An article whose findings are important to those with closely related research interests
**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

'I declare that I have no competing interests'