Reviewer's report

Title: Existing maternal obesity guidelines may increase inequalities between ethnic groups: a national epidemiological study of 502,474 births in England

Version: 1 Date: 5 September 2012

Reviewer: Hora Soltani

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Major Compulsory Revisions

Introduction:
• It will be useful to provide some evidence based explanation regarding physiology/pathophysiology of obesity and ethnicity and why the mortality/morbidity and obesity related adverse obstetric outcomes may be exacerbated by ethnicity.
• Authors have referred to the issue of fat distribution but need to elaborate more on that, this also helps with the previous point.

Methods:
• This is confusing, should this not be included in the results? "The survey response was 89%, and 135 maternity units were identified with routinely collected and electronically recorded anthropometric data."
• Similarly this statement needs to be in the results and substantiated with appropriate statistical information to demonstrate the representativeness of these units: "The participating maternity units were nationally representative in their catchment population demographics when compared with the general population of women of childbearing age using UK census [28], and index of multiple deprivation (IMD) comparison data [29]."

Results:
• Please re-write this sentence, it is not very clear: "The association between obesity and all other ethnic groups compared with White women did not reach statistical significance, indicating no difference in the rate of increase in obesity over time." Does this not contradict the statement in the next paragraph: "Therefore the incidence of obesity in Indian women is increasing significantly less rapidly than White women,...".

• In the last paragraph: "Among the South Asian subgroups Bangladeshi, Indian, and Pakistani women all had a significantly increased odds of being obese compared with White women.", is this by using the WHO BMI classification? Please clarify in the text.

Discussion:
More in depth analysis and interpretation of the results would be helpful. Issues
such as identified risks associated with maternal obesity and how race may impact on that and literature related to the adverse outcomes of pregnancy for ethnic minorities would be essential here.

Minor Essential Revisions

Figures: These should be described more clearly both by providing accurate labels for the figures and better description for each axis (e.g. does the vertical line represent the % of obesity in the population?)

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

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests