Author's response to reviews

Title: Trends in birth weight and the prevalence of low birth weight and small-for-gestational-age in Surinamese South Asian babies since 1974: cross-sectional study of three birth cohorts

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Author's response to reviews: see over
Dear editor and reviewers,

Thank you for reading and commenting on our manuscript. We appreciated the valuable comments made, and revised the manuscript accordingly. You’ll find our response to all comments and questions further in this letter. We trust that with these revisions the paper’s quality has improved.

**REVIEWER 1**

**Title:** Trends in birth weight and the prevalence of low birth weight and small-for-gestational-age in Surinamese South Asian babies since 1974: cross-sectional study of three birth cohorts  
**Version:** 2  
**Date:** 8 March 2013  
**Reviewer:** Joel G Ray

1. Were children with congenital or chromosomal anomalies included?

Yes, all registered children were included, so this might also include children with disorders. However, children with severe congenital or chromosomal anomalies usually don’t attend the general health checkups in well baby clinics but go for more specialised care to a paediatrician. Therefore, we expect that most of these children were not included in our study. We added this notion to the limitations in the discussion.

2. Clarification is needed on assignment of ethnicity: Are first-generation Surinamese parent(s) of a newborn identified as such if they are listed to have been born in Suriname, or is it by their last name, or both? What about second and third generation?

Country of birth together with the last names were required to determine ethnicity. Second generation parents were identified by 1. the Netherlands as country of birth and 2. a Surinamese South Asian family name. As almost all Surinamese South Asian people migrated to the Netherlands as from 1974, it is too early for third generation parents. But, if there would be any, ethnicity is determined similar to how second generation parents were identified.

3. I am concerned that the authors are using the term “Surinamese South Asians”, but Surinam is not a South Asian country. Rather, the Hindustani form about 35% of the population (they are from Indian); the Creoles form 30% (mixed West Africans and Dutch Europeans); and the Javanese are 15% of the population (coming from Indonesia). Thus, are we really sure that they are South Asians, or merely Surinamese? If they are not all South Asians, then the authors need to change the terminology, but also avoid

As Suriname is a multi-ethnic country, the country of birth alone is insufficient to determine the ethnic origin. Therefore, we matched the family names with a list of almost 2500 Surinamese South Asian family names to identify the parents of South Asian descent. We’ve clarified this further in the Methods section. We are confident that in this manner only children of South Asian descent were selected.

4. What happens if one parent is Surinamese and the other parent is Dutch Caucasian?
Records of children of mixed ethnicity were not included in the analyses. We’ve added this to the relevant section.

5. The method used to determine gestational age (LMP, or ultrasound) is not mentioned and needs to be.

In all cohorts the primary method for determining the gestational age was menstrual dating (from the first day of the last menstrual period). In cases with unknown LMP the gestational age was determined by an ultrasound dating scan. We added this to the relevant paragraph in Methods.

6. “Low birth weight” (< 2500 g, or < 2200 g, < 2000g) is not really a useful perinatal indicator anymore, and I suggest removing it entirely from the manuscript. The use of SGA (< 10th centile), and/or severe SGA (< 3rd centile) is simply more enlightening and useful, and would keep the paper more focused.

Answer: You are right that low birth weight shouldn’t be used anymore and could be confusing. We removed the corresponding sections.

7. Methods, page 8: “... and three ethnic specific standards from three countries: the Netherlands,[17, 18] the United Kingdom[19], and Canada.[20]” # I am not sure which ethnic specific standards they used from Canada, for example: Did they use Canada’s European ancestry curves to compare to the Dutch Caucasian, and Canada’s South Asian curves to compare to the Surinamese? This really needs to be made very clear.

We used the separate curves for South Asians and for people of European ancestry for respectively Surinamese and Dutch children. We added this to the methods section.

8. While the three time periods of data are available for the Surinamese, only one time period is available for the Dutch Caucasian newborns. I find this to be distracting, and I think that either combining all 3 time periods for the Surinamese can work, or, even better, just use 2006-2009 (as has been done in Figure 1, anyways). Besides, the time trend changes for the birth weights among the Surinamese is not really a focus of the paper (i.e., not an important objective)

This study had two main objectives:
1. determine secular (time) trends in birth weight, LBW and SGA in South Asian babies
2. Compare the birth characteristics with Dutch (of European descent)

Therefore, time trends in birth weight (and prevalence of LBW and SGA) were important objectives. Combining the periods would change the paper considerably. Therefore, we prefer to keep the original structure of the paper, including the tables.

9. Table 2, “% SGA”: I think that they should have a Figure (Forest plot, for example), that shows prevalence ratios and 95% CIs.

A forest plot is commonly used in meta-analyses. We believe it is less suitable for our study. Also, a plot with our data including confidence intervals would make the graph full and likely less intelligible. Therefore, we prefer the table view with prevalence and 95% confidence intervals.

Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Acceptable
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

REVIEWER 2

Version: 2 Date: 12 March 2013

Reviewer: K Joseph

Major revisions
1. It is unclear if the study subjects represent a sample of the records of infants born in The Hague during the study period or if they represent a census (i.e., the totality of all infants born, barring exclusions). If these infants represent a sample, a brief mention of how the samples were chosen and some discussion about the potential for differential selection during the different periods of the study and the potential for bias is warranted.

   Our study is a population-based study for which data of all children living in the city of The Hague were available. In that sense it can be regarded as a census. We clarified this in the methods section.

2. How was gestational age determined in each period – by menstrual dating, by early ultrasound, by pediatric exam, etc?

   In all cohorts the primary method for determining the gestational age was menstrual dating (from the first day of the last menstrual period). In cases with unknown LMP the gestational age was determined by an ultrasound dating scan. We added this to the relevant paragraph in Methods.

3. Typically, gestational age is recorded in ‘completed weeks’. Please clarify the term ‘whole weeks’ i.e., was gestational age rounded up and rounded down to the nearest week?

   The gestational age was recorded in completed weeks. We changed this accordingly in the relevant section.

4. The parity=1 proportion was not substantially different between periods but the P value for trend shows a significant difference between the 3 time periods. Or does this significant difference apply to the trend in missing values of parity? Please check/clarify.

   We performed a chi-square test on parity by group (1974-1976, 1991-1993, 2006-2009). Therefore, the found significant difference refers to the group distributions. Reanalyses of this category without the missing cases showed no statistically significant differences between the South Asian periods. We changed this in table 1.

5. This is a descriptive study, whose objectives include examining changes in the mean birth weight, low birth weight rate and SGA rates of South Asian Surinamese infants born in The Hague and also contrasting these indices among South Asian Surinamese infants born in 2006-09 with Caucasian infants born in the same period. Whereas the analyses carried out do address these objectives, the Conclusion in the Abstract, namely, ‘For the assessment of birth weight of South Asian babies ethnic specific or customised fetal growth standards are recommended.’ is unrelated to the study, not justified by the evidence presented and should be removed from the Conclusion section (see also #6 below).
We changed the conclusion in the abstract accordingly.

6. Insofar as the study only provides means and rates, it is perhaps not advisable for the authors to infer support for an alternative cut-off for low birth weight among Surinamese South Asian babies (e.g., <2000 g). The key issue for determining whether a cut off is appropriate or not is the rate of neonatal mortality and severe morbidity among infants below and above the cut-off. Thus, the 2500 g low birth weight cut-off has been deemed to be appropriate because most infants above this cut-off are healthy, while the probability of neonatal mortality and severe neonatal morbidity below this cut-off tends to be substantially higher. If the rate of neonatal mortality and severe neonatal morbidity among Surinamese South Asian infants 2000-2499 g is high, using a low birth weight cut-off of 2000 g will only serve to normalize infants in need of medical attention. Since this study did not examine rates of mortality/morbidity, it may be preferable not to infer appropriateness of specific cut-off (or of ethnic specific fetal growth standards).

You are right: we did not substantiate this with actual morbidity and mortality data. Therefore, we removed the ‘ethnic-specific’ LBW cut-offs from the paper.

7. Surinamese South Asian infants showed no secular trends in mean birth weight or low birth weight but did register improvements in rates of small-for-gestational age. As the authors point out in the Discussion section, this was probably a consequence of changes in the gestational age distribution of this sub-population. It would be helpful if the authors could provide secular changes in rates of preterm birth <37 weeks, <34 weeks, <32 weeks and <28 weeks. Another important index that would help clarify the changes among Surinamese South Asian infants is the temporal trend in the rate of iatrogenic preterm birth. Also, the possibility of changes in the modality of gestational age ascertainment has to be entertained. It is known that a change from menstrual dating to early ultrasound dating results in an (artefactual) increase in preterm birth rates (Kramer et al. JAMA 1988).

- We added the distribution of gestational age categories to the table.
- We have no information on the rates of iatrogenic preterm births. This notion was added to the discussion.
- Up till now menstrual dating has been the main method for determining the gestational age in the Netherlands. In all three cohorts dating by last menstrual period was also the primary method. Therefore, the change in the method for pregnancy dating as explanation for the increase in preterm births in our study does not apply to our study.

Minor comments
8. Some copy editing is required. For example, sentences such as the ones below, would benefit from rewording.

‘We found no secular changes in mean birth weight of Surinamese South Asian neonates, even not after adjusting for sex, parity….’
‘Surinamese South Asian neonates have on average not gained weight over a period of 35 years….’

We changed the relevant sections and had our paper proofread by a native-English speaker.

9. ‘This is the first study in the Netherlands….’. Such claims to precedence are best avoided as they are very difficult if not impossible to substantiate (for instance, there could have been an unpublished study, or one published in a journal that is not indexed).
We removed the sentence from the discussion.

**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