Reviewer's report

Title: Boys are more stunted than girls in Sub-Saharan Africa: a meta analysis of 16 demographic and health surveys

Version: 2 Date: 3 August 2006

Reviewer: Eric Benefice

Reviewer's report:

General

1. Is the question posed by the authors new and well defined?

This is an important question, well defined and well commented. The main message is that there existed differences in stunting prevalence according to sex. These differences were more evident at the lower quartile or quintile of the socio-economic strata of population.

The authors adequately presented and discussed their results giving convincing explanations. It could be noticed that a higher incidence in male mortality before the weaning period was observed in may traditional societies around the world, thus modifying the population pyramid. A greater valorization of the males is also frequently observed. Interestingly enough, a recent paper by Crognier and colleagues examining 2 different traditional populations, suggest that despite greater social valorization, no survival differences were observed between girls and boys. This social valorization did not necessarily involved differences in treatment and care [Crognier et al, American Journal of Human Biology, 18: 325-334, 2006].

2. Are the methods appropriate and well described, and are sufficient details provided to replicate the work?

The analysis is fine. Methods are classical and well presented.

3. Are the data sound and well controlled?

DHS surveys seem to be converted in an inexhaustible spring of data for nutrition analysts. Their main advantage, apart from the open access, is that the same methods are applied in different countries and in different situations. The main weakness is that several investigators perform the measurements and interviews and the measurement error, is not exactly known. This is especially important in case of measurements like stature in infants. Surveys are carried in apparently nationally probabilistic samples. Because of the weakness of administrative records in African developing countries, population displacement, urbanization, insecurity, and natural disasters, this could be misleading. It is quite possible that important groups of population are disregarded. This could explain some discrepancies between countries in the present analysis.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?

Yes

5. Are the discussion and conclusions well balanced and adequately supported by the data?

Some reserves should be provided, owing to the weaknesses of DHS database (see over)

6. Do the title and abstract accurately convey what has been found?

Yes

7. Is the writing acceptable?

As far as I could answer: yes

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
I have no compulsory revisions to ask to authors.

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Page 10, end of the page: gender is not synonym of sex.
Page 14 : Reference 11 : Prevalence or prevalence ?

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Discretionary Revisions (which the author can choose to ignore)

Page 2, second paragraph: Notice that uniformity of growth pattern in young boys despite ethnic differences was first described by:


Page 4: The reasons for choosing only English-speaking countries are debatable since the majority of Sahelian countries, where food insecurity is at its maximum, are disregarded.

Page 10: The authors rightly discussed the role of the WHO/CDC reference in creating potential distortion in the H-age index between boys and girls. It should be also observed that they analyzed a single age group (0-5 years) although growth and nutritional profiles are dramatically changing over this period of time. High prevalence of wasting could be expected around 18 to 24 months of age, while more stunting is observed after 40 months. We are advised that the population structure according to sex is the same in the whole sample (page 7 and table 2), but differences in sex-ratio could exist between separate groups of age of the same sample. For example, if there were more boys in older ages, the prevalence of stunting in this group could be artificially increased.

Page 11: This is not certain that females assume the greater part of agricultural works. In Sahelian Africa, especially in Senegal, there is a share in work load among family members. Males are in charge of activities requiring high-muscular power and children and women of time-consuming duties. Also there existed differences between children, adolescents and women according to their physiological endowment. Finally, other dimensions of labour should be considered such as pace, rhythm, intra-familial share of tasksâ€¦ (Benefice et al, Annals of Human Biology, 32, 366-382, 2005). African women are not necessary maleâ€™s slaves.

The same observation applies to â€œdietary discrimination of womenâ€. The reverse is also likely. In charge of the food preparation, women are well-placed to control its distribution. The proximity of young girls to their mothers and to the kitchen, could favored them.

What next?: Accept after minor essential revisions

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

'I declare that I have no competing interests'