Author's response to reviews

Title: A community programme to reduce salt intake and blood pressure in Ghana (ISRCTN 88789643)

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Replies to Reviewers.

Reviewer: Richard Cooper

We thank Dr Cooper for his comments on our manuscript. We are pleased to note that he feels our experience is unique, though challenging.

Minor Revisions

In selecting the Tables and the Figures we were conscious not to overburden the manuscript with large tables of results. However, we do agree with Dr Cooper that a table with the mean values in the two arms and at different time points is the most comprehensive way to present the data and we have now added this as Table 3a and 3b.

Reviewer: Laura P Svetkey

We also thank Dr Svetkey for her constructive and supportive review. We agree with most of her general comments. The study of the exclusive focus on sodium intake was dictated mainly by the local understanding of the likely most important factors relating to blood pressure. Overweight is virtually absent in these rural and semi-urban parts of Ghana (note mean BMI of 21 kg/m2), so that a focus on calories restriction or on an increase in physical activity (these people are extremely active during their daytime) would have diluted the health promotion message. We accept, though, that in more urbanised areas of West Africa, where obesity and diabetes are on the increase - this paralleled by more inactivity and less fruit and vegetable intake -, an approach similar to DASH might be appropriate.

Major Revisions

1. Whilst there are some data from Ghana using hospital series, one of the general problems in sub-Saharan Africa is the lack of reliable population-based morbidity and mortality data on stroke and other chronic diseases. Death certification and causes of death are not consistently recorded and cause-specific mortality rates are derived through verbal autopsies. Recent data from Tanzania and South Africa suggest a high burden of stroke, comparable to those seen in developed countries. The estimates from the Global Burden of Disease Project (original ref 2) or other pooled analyses (original ref. 7) rely on extrapolated figures for Africa that have been criticised for their inaccuracy (original ref. 1). We have now added a paragraph in the Introduction and five new references.

2. Dr Svetkey interpretation is incorrect as we state that 2,743 were adults aged 40-75 years, not over 16 yrs.

3. The proportion of people providing complete 24h urine collection at each time-point was >99% of the respondents at each time-point. They were 1011 out of 1013 (99.8%) at baseline, 889 out of 894 (99.4%) at 3 months, 800 out of 801 (99.9%) at 6 months. We have now added some more details to the Methods - Follow-up.

4. The educational and health promotion sessions were open to all villagers, irrespective of their
participation into the trial. They were encouraged to attend by preliminary meetings with health visitors, the endorsement of their chief and community leaders. The meetings were held daily for the first week of the study and once weekly thereafter. The sessions were held in communal areas like churches, churchyards, schools, community centres. The sessions lasted approximately one hour (both for intervention and control). We did not record the actual number of attendants at each meeting as they were in relatively large numbers and, therefore, we are unable to report response rates at each session. The spirit of the intervention was to expose the whole community to the health promotion message and to test only a random proportion of them. Participants randomised to take part into the trial (both intervention and control) were given a small gift at the end of the study consisting of soap, rice, sugar, tinned mackerel, paracetamol, folic acid and some vitamin supplements; however they did not know this prior to participating, so that the response rate is likely to represent an unbiased response to a health promotion initiative. Likewise, the whole village was presented with a gift at the end of the study consisting of either a television set for the communal room (where there was electricity) or corrugated roofing sheets as a contribution to the building of local schools or community areas. We have now expanded in the Methods - Intervention programme.

5. The figures given in the manuscript were response rates at baseline. We agree that there might have been confusion as it was under the heading 'Follow-up'. We have no re-phrased the paragraph and added figures for follow-up as well.

6. In the intervention group 47% were from rural villages compared to 53% in the control group. We have now added a sentence in the Results - Effect of intervention on salt intake.

7. We did measure urinary potassium. The results are reported in the different tables and the net effect is now clearly seen in Table 3a and 3b.

8. We agree with Dr Svetkey and we appreciate the constructive criticism on this occasion.

9. We have now amended the figures and referred also to the paper by Bray et al.

Minor Revisions

1. We have now re-numbered the Tables

2. as above

3. This is a deliberate change in terminology (from 'intention-to-treat' to 'intention-to-eat') to reflect the fact that the intervention is a dietary change, not an administered treatment.

4. Amended

5. Amended

6. Locality was defined earlier in the paper as being 'rural' or 'semi-urban'. We have now made it clear in the legend.