

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Dietary sources and sodium intake in a sample of Australian pre-school children
AUTHORS	O'Halloran, Siobhan; Grimes, Carley; Lacy, Katie; Nowson, Caryl; Campbell, Karen

VERSION 1 - REVIEW

REVIEWER	Mary E. Cogswell Centers for Disease Control and Prevention, USA
REVIEW RETURNED	29-Jun-2015

GENERAL COMMENTS	<p>Data on the sources of sodium intake in young children are scarce. Thus this study could potentially fill an important gap in information.</p> <p>Study design:</p> <p>Data are from participants in an Infant Feeding Activity and Nutrition Trial at follow-up. Although authors state there is no difference between the intervention and the control group in overall sodium intake, depending on the intervention, it is possible that the sources of sodium intake could vary between the intervention and control group and between the study group and the general population. Thus, a description of the intervention would be helpful.</p> <p>In addition, the data are from follow-up of 50% of the original participants, however, it is unclear whether participants who were lost to follow-up differed from participants included in this study, e.g., in individual or parental characteristics.</p> <p>Limited information is provided on the validity or lack thereof, of the 24-h dietary recall for estimating sodium intake. Is there any information on this method in relation to 24- h urine collection in Australia?</p> <p>Methods: What was the length of the dietary intake period assessed? What was the time frame between the first recall and the last recall? Were recalls consecutive or nonconsecutive?</p> <p>Ethics: Information is provided on informed consent, but I could not find information on ethics approval in the manuscript.</p> <p>Statistics: Did sodium intake and sources differ on weekdays and weekends? If so, weighting the data from the recalls to account for intake on weekdays versus weekends is recommended</p>
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	<p>Limitations: In addition to potential limitations described above, the database used to assess the sodium and energy content of the foods consumes is from 2007. Have changes occurred in the sodium content of processed foods - in particular between 2007 and when the dietary information was collected, i.e, from 2008-2010?. If so, how might this affect the contributions of specific food categories to sodium intake?</p> <p>Specific comments - results and conclusions</p> <p>Abstract: Conclusions - are broad when the sampling is narrow and it is not clear if the sample is representative of all children in Australia. Please add qualifiers. As written the conclusions imply these results apply to all children in Australia.</p> <p>Limitations - Although authors indicate the sample is over-represented by higher SES families it is not clear that this sample is representative of the children who were excluded because of loss to follow-up. Please see previous comments. Please qualify results.</p> <p>The results "suggest" rather than "highlight" "that reductions in sodium content are required to to reduce sodium intake...in a convenience sample of children in Melbourne Australia."</p> <p>Table 3: Please check the numbers and percentages, some do not add up. For example, according to the table, there were 125 boys and 125 girls. Was one child missing sex informatio? Employment status adds up to 98%, rather than 100%. The percent who have a partner should be 99%. The percent who are separated is less than 0.5% as is the percent who are single. Under country of birth, the proportion born in countries other than Australia should be 17%.</p> <p>Table 4. Please check the italics for the "minor food categories" These are not consistent for some categories. Also, please note this is the contribution of food groups to individual daily sodium and energy intakes.</p>
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REVIEWER	John Powles Department of Public Health and Primary Care, University of Cambridge, UK
REVIEW RETURNED	20-Oct-2015

GENERAL COMMENTS	<p>General This appears to be a soundly conducted study though it is poorly reported. My main concerns are with the clarity of presentation.</p> <p>Title It would be more appropriate to write '... in a sample of Australian pre-school children' (as in the abstract).</p> <p>Setting A clearer distinction is needed between the 'parent' study (InFANT – a controlled trial) and this (and other?) substudies. 'Study' (unqualified) should have a single clear meaning throughout: it is probably simplest for it to always refer to the study of sodium intakes at 3.5 years being reported in this paper and not to the parent (trial) study or to any aggregate of cross-sectional studies based on the trial participants followed up at various ages. The objectives of the</p>
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'parent' (trial) study are of limited relevance to this (cross-sectional) substudy – though the sampling and follow up processes clearly are because they have determined who is included in the study being reported. So under 'Study design and participants' (p 5, l24) the relevance of the parent study to the study being reported should be made clear from the beginning. Eg 'The study population was children participating in a trial of ?? (The Melbourne ... (InFANT) programme who were followed up at an average age of 3.5 years. Recruitment for InFANT) [text similar to existing]'. This text should also clarify the relationship between counts of children and of parents (ie whether there were any twins?).

The introduction of an additional study label under 'Acknowledgments' (p 16) and Figure 1 (p 19) – 'the InFANT follow up study' may be adding avoidable confusion. Presumably there could be multiple objectives ('studies?') related to the follow ups of the parent study of which the reported study of sodium intakes at 3.5 years is only one. Given that the 3.5 year follow up was presumably part of the design of InFANT, it may be simpler to remove references to 'the InFANT follow up study' – unless the relationship of this study of sodium intakes at 3.5 years to all follow up studies can be economically explained. Eg the Figure 1 caption could be changed to something like 'The derivation of participants in this study of sodium intakes at 3.5 years in relation to the design of InFANT.'

Abstract, Setting: Participants are children and mothers; references to 'parents' should be removed unless data on fathers is also being reported.

Abstract, Results: l 31: 'the Australian Upper Level ...'

Introduction

P 4, l 17: 2 g/d

P 4, l 24: shows that

P 4, l 49, 50: Clarify which populations are being referred to (unlikely to be true of China).

Methods

P 5, l 34: To avoid confusion it would be better if 'the study' was only used to refer to the study of sodium intakes reported here. 'InFANT was conducted in 2008-2010...' would be a suitable alternative here.

Food classifications

The source of the food groups in Table 4 should be given. The choice of a presumably non peer reviewed source (book by Scrinis) for the classification by level of processing (Table 2) in preference to the original classification of Monteiro et al should be justified. In any case the novelty and lack of standardisation of these classifications should be noted and their use in this study appropriately qualified. The inclusion criteria for each category ('type of processing technique') should not include gratuitous comments on their presumed health effects ('removal of beneficial components', 'more harmful end products').

Results

Table 3: If 'parent' means 'mother' then 'mother' should be used: otherwise the sentence about the proportion of 'children with a parent' eg having a higher level of education (p 10, l 20) is unclear – literally it should mean 'mother or father with a higher education' but it does not appear that the characteristics of fathers are being taken into account.

Body mass index z score: the reference distribution needed to obtain these should be given in a footnote.

Country of birth percentages don't add to 100.

P 11, l 17: The food group was'

Discussion

P 13, l 17: ? better: 'in children in InFANT followed up at a mean age

	<p>of 18 months, 54% exceeded the UL for sodium (14). This increase, with age, in the proportion exceeding recommended upper limits for sodium intake is concerning and ...'</p> <p>L 23-25: 'sodium rich foods high sodium such as breads'</p> <p>L 39: 'better: 'In the earlier follow up of InFANT participants at younger ages (9 and 18 months)'</p> <p>L 45: These findings in the follow up studies of InFANT participants are consistent with the 2011....'</p> <p>P 14, I 25: It is not clear what 'permitted' means in the absence of an enforcing authority.</p> <p>P 16, I 18: 'The classifications of foods by level of processing are new and still subject to debate. In addition, children of parents with less formal education were under-represented in our sample ' The potential effects of selection bias (within the 3.5 year follow up) should also be noted: the 100 mothers who did not participate in the diet recall were likely less health conscious and their children's sodium intakes may have been higher.</p> <p>L 52, Funding: Text should clarify that 'This research' refers just to this study of sodium intakes at 3.5 years and not to InFANT as a whole.</p> <p>References Ref 10 lacks date.</p> <p>Figure 2: Many of the labels are truncated. Convert to a bar chart and move axis to the right to allow more room for labels.</p> <p>Figure 3 caption: Figures should preferably be self sufficient – so the caption should clarify meanings of 'core' and 'discretionary'. Alternatively add: 'See text for meanings of core and discretionary'.</p> <p>Figure 4 caption: As above. 'Mean daily sodium intakes over 3 consecutive days: food sources classified by level of processing (see text for further details).'</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer(s)' Comments to Author:

Referee 1

Comments to the authors:

Data on the sources of sodium intake in young children are scarce. Thus this study could potentially fill an important gap in information.

Comment No 1:

Study design:

Data are from participants in an Infant Feeding Activity and Nutrition Trial at follow-up. Although authors state there is no difference between the intervention and the control group in overall sodium intake, depending on the intervention, it is possible that the sources of sodium intake could vary between the intervention and control group and between the study group and the general population. Thus, a description of the intervention would be helpful.

Response to comment No 1

We have now added more detail to the methods section describing the intervention more fully (page 6 lines 87-89).

'The intervention group received anticipatory guidance on the promotion of healthy eating and physical activity, whereas the control group received information only on child health and development (15)'

We appreciate this comment, however it is discordant with comment 2 from Reviewer 2. We are happy to provide the following extra details about the intervention in the manuscript if required; 'The intervention aimed to develop skills and to provide support for physical activity and feeding and the

anticipatory messages were delivered prior to the child's developmental phase. In contrast the control received regular newsletters which included advice on literacy or ill health'.

Perhaps the Editor could make the decision regarding the level of detail about the intervention that is required.

Comment No 2:

In addition, the data are from follow-up of 50% of the original participants, however, it is unclear whether participants who were lost to follow-up differed from participants included in this study, e.g., in individual or parental characteristics.

Response to comment No 2

We now have summarized the key differences between the participants and the follow-up group and included on page 10 lines 195 to 199: 'Compared to the participants (mothers) from the follow-up study, the participants lost to follow-up were less likely to be on maternity leave, less likely to have a university qualification, more likely married, born in Australia and to speak English at home and the children had a higher BMI z-score. Within the lost to follow up group there was one father who was excluded from this study for not providing complete dietary data'.

If the Editor would prefer we can submit the table below as an additional file.

Table 1: Demographic characteristics for children and mothers who participated in follow-up data collection when the children were 3.5 years old

InFANT Follow

Up (n = 251) Lost to follow up

(n = 291) Difference between participants at follow-up and lost to follow-up
(P value)

Child Characteristics

Sex n % n % 0.228*

Boys 125 50 160 55

Girls 125 50 131 45

Mean SD

Age (years) 3.6 0.19 3.8 0.23

Weight (kg) 16.6 2.0 16.5 2.26 0.3615†

Height (cm) 100.7 4.03 101.2 4.91 0.8657†

Body Mass Index z-score 1 0.68 0.88 0.0271†

Parent Characteristics n % n %

Employment status 0.336*

On maternity leave 178 71 169 58

Employed full time 3 2 5 2

Employed part time 19 7 22 8

Unemployed 8 3 15 5

Student 2 1 4 0.5

Home duties 36 14 52 18

Other 5 2 8 3

Missing 16 5.5

Highest Level of Education 0.011*

Trade of high school 93 37 150 52

Bachelor degree or higher 158 63 129 44

Missing 12 4

Marital status 0.336*

Partner 246 98 275 95

Single parent 5 2 4 1

Missing 12 4
Country of birth
Australia 208 83 211 73
Other 43 17 68 23
Missing 12 4
Main Language at Home 0.041*
English 240 96 257 88
Other 11 4 22 8
Missing 12 4
*Chi square test $P = <0.05$ significant
†t-test $P = <0.05$ significant

Comment No 3:

Limited information is provided on the validity or lack thereof, of the 24-h dietary recall for estimating sodium intake. Is there any information on this method in relation to 24- h urine collection in Australia?
Response to comment No 3

Thank you. There are no validation studies of this method in Australian children. The 24-hour recall method is routinely used for sodium assessment in dietary studies (e.g. 2011-13 Australian Health Survey, 2007 Children's Nutrition and Physical Activity Survey) and we acknowledge the limitations of this method such as discretionary salt use not being captured and the inadequacy of the food composition database for sodium assessment on branded products. However, our study includes 3 days of dietary recall which is a strength of the study.

Comment No 4:

Methods: What was the length of the dietary intake period assessed? What was the time frame between the first recall and the last recall? Were recalls consecutive or non-consecutive?
Response to comment No 4

We have inserted a more in depth discussion. Page 6 line 107-108 reads 'Recalls were non-consecutive (15) and the mean number of days between the first and last recall was 15.5 days (SD 18.3 days).

Comment No 5:

Ethics: Information is provided on informed consent, but I could not find information on ethics approval in the manuscript.
Response to comment No 5

We have now included these details: Page 6 line 98-101 reads: Infant was approved by the Deakin University Human Ethics Research Ethics Committee (ID number: EC 175-20078) and the Victorian Government Department of Human Services, Office for Children, Research Coordinating Committee (Ref: CDF/07/1138).

Comment No 6:

Statistics: Did sodium intake and sources differ on weekdays and weekends? If so, weighting the data from the recalls to account for intake on weekdays versus weekends is recommended
Response to comment No 6

The aim of this paper was to understand the sodium intake over 3 days of dietary intake. Within our sample all participants had 3 days of dietary intake and therefore we have captured any variation within our sampling framework. We do not feel it is useful to assess week days and weekend days separately in the context of our primary aims in pre-school children.

In addition, a study by Grimes et al (<http://www.ncbi.nlm.nih.gov/pubmed/25110037>) utilising national survey data compared weekend to weekday sodium intake in primary school children and found there was no difference in intakes. Whilst there are no comparable studies in pre-school children we would expect that the sodium intake and sources would not differ greatly over the weekday compared to the

weekend.

Comment No 7:

Limitations: In addition to potential limitations described above, the database used to assess the sodium and energy content of the foods consumes is from 2007. Have changes occurred in the sodium content of processed foods - in particular between 2007 and when the dietary information was collected, i.e. from 2008-2010? If so, how might this affect the contributions of specific food categories to sodium intake?

Response to comment No 7

The InFANT follow up data was collected during 2008-2010 and as this was closer to the 2007 AUSNUT food composition database than the more recent 2011-13 AUSNUT food composition database which only became available mid-2015. Regarding any changes which may have occurred in the sodium content of processed foods, some food products likely have had reformulation since the Food and Health Dialogue but this change is likely to have been very gradual (although this has not been documented) and therefore unlikely to significantly impact on the main findings of this study.

Comment No 8:

Abstract: Conclusions - are broad when the sampling is narrow and it is not clear if the sample is representative of all children in Australia. Please add qualifiers. As written the conclusions imply these results apply to all children in Australia.

Response to comment No 8

Thank you. This has been amended on page 2 line 20 and reads 'Within this sample most children exceeded the recommended UL for sodium'.

Comment No 9:

Limitations - Although authors indicate the sample is over-represented by higher SES families it is not clear that this sample is representative of the children who were excluded because of loss to follow-up. Please see previous comments. Please qualify results.

Response to comment No 9

Please see response to comment no 2.

Comment No 10:

The results "suggest" rather than "highlight" "that reductions in sodium content are required to reduce sodium intake...in a convenience sample of children in Melbourne Australia."

Response to comment No 10

Page 2 line 23: 'highlight' has been changed to 'suggests'.

Comment No 11:

Table 1: Please check the numbers and percentages, some do not add up. For example, according to the table, there were 125 boys and 125 girls. Was one child missing sex information? Employment status adds up to 98%, rather than 100%. The percent who have a partner should be 99%. The percent who are separated is less than 0.5% as is the percent who are single. Under country of birth, the proportion born in countries other than Australia should be 17%.

Response to comment No 11

Apologies for this. All errors have been corrected. Please see Table 1 page 9.

Comment No 12:

Table 2. Please check the italics for the "minor food categories" These are not consistent for some categories.

Response to comment No 12:

In Table 2 page 11 all food categories including the 'minor', have been checked against AUSNUT 2007 for inconsistencies and we believe the minor foods by italics included in Table 2 are correct.

Comment No 13

Also, please note this is the contribution of food groups to individual daily sodium and energy intakes.

Response to comment No 13

The title of Table 2 on page 13 now reads 'Table 2. The contribution of food groups to individual intakes of energy and sodium'

Referee 2

Comments to the authors: This appears to be a soundly conducted study though it is poorly reported. My main concerns are with the clarity of presentation.

Comment 1:

Title

It would be more appropriate to write '... in a sample of Australian pre-school children' (as in the abstract).

Response to comment No 1

The title on page 1 has been amended to read 'Dietary sources and sodium intake in a sample of Australian pre-school children'

Comment 2:

Setting

A clearer distinction is needed between the 'parent' study (InFANT – a controlled trial) and this (and other?) sub studies. 'Study' (unqualified) should have a single clear meaning throughout: it is probably simplest for it to always refer to the study of sodium intakes at 3.5 years being reported in this paper and not to the parent (trial) study or to any aggregate of cross-sectional studies based on the trial participants followed up at various ages. The objectives of the 'parent' (trial) study are of limited relevance to this (cross-sectional) sub study – though the sampling and follow up processes clearly are because they have determined who is included in the study being reported. So under 'Study design and participants' (p 5, l24) the relevance of the parent study to the study being reported should be made clear from the beginning. Eg 'The study population was children participating in a trial of ?? (The Melbourne ... (InFANT) programme who were followed up at an average age of 3.5 years. Recruitment for InFANT) [text similar to existing]'. .

Response to comment 2:

Thank you for your suggestion. It is acknowledged that a clearer distinction is required between the 'parent' study (InFANT – a controlled trial) and this study. As such we have amended the Study design and participants on page 5 line 76-82 to read 'The study population was children participating in the in the Melbourne Infant Feeding Activity and Nutrition Trial (InFANT) Program. The study design for InFANT has been reported previously (15). Briefly, InFANT was a cluster randomised controlled trial intervention involving first time mothers attending parents' groups when their children were 3 months to 20 months of age.

Comment 3:

This text should also clarify the relationship between counts of children and of parents (ie whether there were any twins?).

Response to comment 3:

We have now included on page 5 line 85-86 Each parent-child dyad represented one parent and their first born (15).

Comment 4:

The introduction of an additional study label under 'Acknowledgments' (p 16) and Figure 1 (p 19) – 'the InFANT follow up study' may be adding avoidable confusion. Presumably there could be multiple objectives ('studies'?) related to the follow ups of the parent study of which the reported study of sodium intakes at 3.5 years is only one.

Response to comment 4:

Acknowledgements on page 18 line 333-334 have been amended to read 'The authors would like to thank all study participants and the staff involved in InFANT.'

Comment 5:

Given that the 3.5 year follow up was presumably part of the design of InFANT, it may be simpler to remove references to 'the InFANT follow up study' – unless the relationship of this study of sodium intakes at 3.5 years to all follow up studies can be economically explained.

Eg the Figure 1 caption could be changed to something like 'The derivation of participants in this study of sodium intakes at 3.5 years in relation to the design of InFANT.'

Response to comment 5:

The figure 1 caption has been amended to read 'The derivation of participants in this study of sodium intakes at 3.5 years in relation to the design of InFANT'.

In addition under the results section on page 10 line 195 to 199 we have also added 'the derivation of participants in this study of sodium intakes at 3.5 years in relation to the design of InFANT are detailed in Figure 1'.

Comment 6:

Abstract, Setting: Participants are children and mothers; references to 'parents' should be removed unless data on fathers is also being reported.

Response to comment 6:

We have amended this: Parents on pages 2 line 5 has been removed and replaced with mothers.

Comment 7:

Abstract, Results: l 31: 'the Australian Upper Level ...'

Response to comment 7:

We have corrected this. On page 2 line 13 this now reads 'the Australian Upper Level ...'

Comment 8:

Introduction

P 4, l 17: 2 g/d

Response to comment 8:

This was an error and on page 4 line 46 has been amended to 2 g/ day

Comment 9:

P 4, l 24: shows that

Response to comment 9:

We have amended this: On page 4 lines 49-50, this now reads 'The most recent Australian Health Survey (AHS) 2011/13 shows that..'

Comment 10:

P 4, l 49, 50: Clarify which populations are being referred to (unlikely to be true of China).

Response to comment 10:

We have now clarified this situation. On page 4 line 57 this now read 'It has been estimated that in the

diets of individuals from developed countries, approximately 75% of dietary sodium is derived from salt added during the manufacture of foods...'

Comment 11:

Methods

P 5, l 34: To avoid confusion it would be better if 'the study' was only used to refer to the study of sodium intakes reported here. 'InFANT was conducted in 2008-2010...' would be a suitable alternative here.

Response to comment 11:

We have amended this. It is acknowledged that the use of the INFANT study is confusing. On page 5 line 76 this now reads 'The study population was children participating in the Melbourne Infant Feeding Activity and Nutrition Trial (InFANT) Program.'

Comment 12:

Food classifications

The source of the food groups in Table 4 should be given.

Response to comment 12:

We have included the relevant information. Table 2 on page 11 - Reference #17 (Food Standards Australia and New Zealand. AUSNUT 2007 (2015) Food Standards Australia New Zealand.

<http://www.foodstandards.gov.au/science/monitoringnutrients/ausnut/classificationofsupps/Pages/default.aspx>) has now been added as the source of the food groups.

Comment 13:

The choice of a presumably non peer reviewed source (book by Scrinis) for the classification by level of processing (Table 2) in preference to the original classification of Monteiro et al should be justified. In any case the novelty and lack of standardisation of these classifications should be noted and their use in this study appropriately qualified. The inclusion criteria for each category ('type of processing technique') should not include gratuitous comments on their presumed health effects ('removal of beneficial components', 'more harmful end products').

Response to comment 13:

We acknowledge that Monteiro et al is the preferred peer reviewed source and have re-analysed our data using the Monteiro classification system.

In addition, in the methods section on page 8 lines 143-163 we have included 'The NOVA processed foods classification system which groups foodstuffs into four categories (minimally processed, processed, processed culinary ingredient, ultra-processed) according to the type and intensity of technological intervention was used to classify foods according to their level of processing. The criteria for classifying foods and ingredients into the four groups is described elsewhere (13). In brief, the minimally processed food category often involves food preservation techniques which improves storage suitability and manufacturing methods which enhance palatability and food quality. The processed culinary ingredient category includes ingredients used in the preparation of foods and maybe include versions of the original foods. Processed foods are derived from the addition of ingredients such oil, sugar and salt to whole foods to make them more palatable whereas ultra-processed food typically contain little or no whole foods and often contain ingredients such as preservatives and sweeteners which make foods highly palatable and convenient (13). In this study each five-digit food code representing minor food categories (n=286) from the InFANT dataset were classified as minimally processed, processed, processed culinary ingredient or ultra-processed foods. In some instances when it was difficult to classify some minor food categories, (n=9) the eight-digit food code was consulted to examine the individual food products within that category and to identify the ingredients and level of processing.'

Comment 14:

Results

Table 3: If 'parent' means 'mother' then 'mother' should be used: otherwise the sentence about the

proportion of 'children with a parent' eg having a higher level of education (p 10, l 20) is unclear – literally it should mean 'mother or father with a higher education' but it does not appear that the characteristics of fathers are being taken into account.

Response to comment 14:

The InFANT study was designed for first time parents and within the final recruitment (n=542) one father was included. However, at follow up this father as he had incomplete dietary dietary data. On page 10 lines 198-199 now reads: Within the lost to follow up group there was one father who was excluded from this study for not providing complete dietary data.

Table 1 on page 10: includes mothers characteristics

Comment 15:

Body mass index z score: the reference distribution needed to obtain these should be given in a footnote.

Response to comment 15:

On page 11 lines 202 to 203 a footnote has been added to Table 1 and a reference added to the reference list

19. WHO Multicentre Growth Reference Study Group. WHO Child Growth Standards: Length/Height-for-Age, Weight-for-Age, Weight-for-Length, Weight-for-Height and Body Mass Index-for-Age: Methods and Development. Geneva, Switzerland: World Health Organization;2006

Comment 16:

Country of birth percentages don't add to 100.

Response to comment 16:

We have corrected this error. Table 1 page 11: this has now been amended so country of birth percentages add up to 100%.

Comment 17:

P 11, l 17: The food group was'

Response to comment 17:

We have amended: On page 12 line 206 now reads 'The food group cereals and cereal products was'

Comment 18:

Discussion

P 13, l 17: ? better: 'in children in InFANT followed up at a mean age of 18 months, 54% exceeded the UL for sodium (14). This increase, with age, in the proportion exceeding recommended upper limits for sodium intake is concerning and ...'

Response to comment 18:

We acknowledge that this statement is confusing. On page 12 lines 214 to 218 we have changed this to read 'In a previous analysis of children from the original InFANT Program at 18 months Campbell et al reported that 54% of children exceeded the UL recommendation for sodium (14).

On page 14 lines 237 – 238 now reads 'This increase in the proportion of InFANT Program participants exceeding the recommended upper levels for sodium intake at the age of 3.5 years is concerning'

Comment 19:

L 23-25: 'sodium rich foods high sodium such as breads'

Response to comment 19:

On page 14 line 240 'high sodium' has been deleted.

Comment 20:

L 39: ?better: 'In the earlier follow up of InFANT participants at younger ages (?9 and 18 months)'

Response to comment 20:

We acknowledge that perhaps that the use of the INFANT study and the INFANT –follow up study is confusing. Page 14 lines 247 - 249 now reads ‘Earlier analyses of the InFANT cohort at ages 9 and 18 months also found that bread, cheese and breakfast cereal were major sources of sodium’.

Comment 21:

L 45: These findings in the follow up studies of InFANT participants are consistent with the 2011....’

Response to comment 21:

There was only one INFANT follow-up study which was conducted when the children were approximately 3.5 years of age (this is included in the methods section page 6 line 121-123). Page 14 line 250 we have amended the sentence to read ‘These findings are consistent with 2011-13 AHS which indicated that in children aged 2-3 years the main sources of sodium were cereal based products (e.g. bread), cereal products (e.g. mixed pasta/rice dishes), meat (e.g. processed meat) and milk products (e.g. cheese) (9).

Comment 22:

P 14, l 25: It is not clear what ‘permitted’ means in the absence of an enforcing authority.

Response to comment 22:

On page 15 lines 266 to 270 reads “Some of the maximum levels of sodium recommended by the FDH include bread (400 mg/100g) and processed meats products (1090 mg/100g ham and bacon and 830 mg/100g luncheon meats) and a 15% sodium reduction target was applied to those ready-to-eat breakfast cereals where sodium levels exceeded 400mg/100g (24).

Comment 23:

P 16, l 18: ‘The classifications of foods by level of processing are new and still subject to debate. In addition, children of parents with less formal education were under-represented in our sample ‘ The potential effects of selection bias (within the 3.5 year follow up) should also be noted: the ?100 mothers who did not participate in the diet recall were likely less health conscious and their children’s sodium intakes may have been higher.

Response to comment 23:

We have reworded this section to address these issues. Please see rewording on page 17 lines 316-323

The NOVA classification is a new processed food grouping system and although it is not yet a well-established method of assessing diet quality, it has been included in the most recent Brazilian Dietary Guidelines (31). In addition, our sample was subject to selection bias as those included in the survey were more likely to have a university qualification, more likely to be born in Australia and to speak English at home and the children had a lower BMI z-score when compared to those who did not participate, which reduces generalisability to the Australian population

Comment 24:

L 52, Funding: Text should clarify that ‘This research’ refers just to this study of sodium intakes at 3.5 years and not to InFANT as a whole.

Response to comment 24:

We have amended this: On page 18 line 340 This now reads ‘This study of sodium at 3.5 years received no specific grant...’

Comment 25:

References

Ref 10 lacks date.

Response to comment 25:

Thank you. On page 19 line 381 the date has now been entered for Ref 10.

Comment 26:

Figure 2: Many of the labels are truncated. Convert to a bar chart and move axis to the right to allow more room for labels.

Response to comment 26:

We have amended Figure 2 has been amended to display complete name of food category labels.

Comment 27:

Figure 3 caption: Figures should preferably be self-sufficient – so the caption should clarify meanings of ‘core’ and ‘discretionary’. Alternatively add: ‘See text for meanings of core and discretionary’.

Response to comment 27:

We have amended this as suggested: Figure 3 caption now reads ‘mean sodium intake over three days from core and discretionary foods (see text for meanings of core and discretionary)’.

Comment 28:

Figure 4 caption: As above. ‘Mean daily sodium intakes over 3 consecutive days: food sources classified by level of processing (see text for further details)’.

Response to comment 28:

We have amended this. 4 caption now reads ‘Mean daily sodium intakes over three consecutive days: food sources classified by level of processing (see text for further details)’.

VERSION 2 – REVIEW

REVIEWER	John Powles Institute of Public Health University of Cambridge UK
REVIEW RETURNED	07-Jan-2016
GENERAL COMMENTS	Authors have responded appropriately to review comments. Paper is much improved.