



Scientific Advisory Committee on Nutrition

## 8th MEETING

### Carbohydrates Working Group

3rd September 2010, Conference Room 4, Aviation House  
125 Kingsway, London, WC2B 6NH

### DRAFT MINUTES

**Chair:**

Professor Ian Macdonald

**SACN Members:**

Professor Annie Anderson

Professor Tim Key

Dr David Mela

Professor Ian Young

Mrs Christine Gratus

Prof Julie Lovegrove

Dr Mark Beattie

**Other attendees:**

Dr Peter Sanderson

Mr Cliff Gay (FSA statistics) (agenda item 3 only)

**Secretariat:**

Dr Elaine Stone (FSA)

Mrs Vicki Pyne (FSA)

Ms Emma Peacock (FSA)

Mrs Rachel Marklew (DH)

### **Agenda item 1 – Chair’s introduction and welcome**

1. The Chair welcomed members to the eighth meeting of the SACN Carbohydrates Working Group.
2. Apologies were received from Professor Angus Walls, Professor Ian Johnson and Dr Sheela Reddy.
3. The Chair welcomed new members Professor Julie Lovegrove, Professor Ian Young and Dr Mark Beattie to the Carbohydrates Working Group.
4. Dr Elaine Stone explained the purpose and the terms of reference of the Working Group for the benefit of the new members.
5. Members were informed that Professor Alan Jackson had retired from the Carbohydrates Working Group as of June 2010. Therefore, Dr Mark Beattie has been co-opted onto the group to provide paediatric, as well as clinical expertise in gastro-intestinal health.
6. The Chair asked the group whether there were any changes to their declaration of interest. The Chair informed the group that he has been involved with research investigating food supplemented with polydextrose and its effect on satiety. Therefore, it has been agreed that the Chair will not participate in discussions surrounding polydextrose and Professor Annie Anderson will lead any such deliberations. The Chair also informed members that he will step down from his position on the Advisory Board to Mars Europe, the European Scientific Advisory Committee to Coca Cola Europe, and the International Public Policy Advisory Board for The Coca Cola Company, Atlanta, as of 31<sup>st</sup> December 2010.

### **Agenda item 2 – Minutes of the 7<sup>th</sup> meeting (SACN/Carbohydrates/10/mins/01)**

7. Members were invited to comment on the minutes of the 7<sup>th</sup> meeting of the Carbohydrates Working Group.
8. A member continued to express concern around the inclusion criterion for weight loss trials in the cardiometabolic health review as described in paragraph 23. It was suggested that there is a risk that, with longer durations, outcomes become increasingly linked to

compliance rather than effectiveness, and ‘negative’ results may reflect loss of exposure rather than loss of efficacy.

9. Members agreed that the trials should have an intervention period of one year or more, rather than having a short exposure time and long follow-up, and the minutes should be amended to reflect this. Therefore, page 5, paragraph 23- duration should be used instead of follow-up and paragraph 24 should be amended to read “...concluded that an exposure of one year or more duration...”
10. Dr Elaine Stone agreed to communicate with the Leeds team to ensure that trials are included where the intervention period itself is for one year, rather than the follow-up.

**Action: Secretariat**

11. The Chair clarified to the group that the studies being included do not use energy restricted diets, but are carbohydrate quality studies. Studies excluded on the basis of having an intervention period less than a year are stored within the database used by the Leeds team, so that the Working Group can refer to them if required.
12. A member informed the group that the Leeds team were approaching authors where there was missing information about the study design (e.g. whether allocation to intervention arms had been done on a random basis).
13. Paragraph 81, 1<sup>st</sup> and 2<sup>nd</sup> bullet point the author Burns should be amended to Burn.
14. Paragraph 83, 3<sup>rd</sup> bullet point should be amended to read “A member suggested it would be useful to quantitate the amount of fibre required to be considered to raise faecal output.....”
15. Subject to the above changes, the minutes were agreed as an accurate record of the meeting.

### **Agenda item 3 – Matters arising (SACN/Carbohydrates/10/14)**

16. The Chair introduced the matters arising.

*SACN/CHO/10/07 – Carbohydrates and oral health*

17. Elaine Stone informed members that due to nutrition policy moving to the Department of Health, the Agency has been unable to commission the carbohydrates and oral health review. The Secretariat are currently awaiting a decision on whether this work can be undertaken. Unfortunately this will lead to a delay in the Working Group completing its work and means that both the cardiometabolic health and colorectal health review will need to be updated closer to publication.

*SACN/CHO/10/09 – Carbohydrates and cardiometabolic health*

18. The Leeds team have addressed the Working Group's comments from the previous meeting and are continuing to work on the review so that a draft version can be circulated to members ahead of the next meeting in November 2010.

*SACN/Carbohydrates/10/10- Carbohydrates and colorectal health*

19. To be discussed under Agenda item 3

*Agenda item 6*

20. Elaine Stone suggested that members were allocated to each ToR according to their expertise, to assist the secretariat with drafting the conclusions and recommendations of the reviews. Members agreed that they were happy with this approach.

**Agenda item 3- Draft papers on carbohydrates and colorectal health and cancer (SACN Carbohydrates/10/15)**

21. The draft report consists of three sections and the Chair informed members that the colorectal cancer section will be presented first because it has not been previously discussed by the Working Group.

22. Peter Sanderson (PS) introduced the cancer section of the draft paper of carbohydrates and colorectal health.
23. Members noted that the World Cancer Research Fund (WCRF) had granted access to their database of all prospective cohort studies and randomised controlled studies (RCTs) related to carbohydrate and colorectal cancer and adenomas. As sufficient data from these studies were available, case-control studies were not included in the review.
24. PS informed members that the Park et al., 2005 large pooled analysis of fibre intake and colorectal cancer was not included by the WCRF in their review. One of the strengths of the Park et al analysis is that they have used individual data sets from the authors of the included studies.
25. A member queried whether the data from other cohort studies were being duplicated by the inclusion of the Park et al., 2005 meta-analysis. PS confirmed that this was not the case and cohort studies that were analysed by Park were not included again in the meta-analyses for the colorectal health review.
26. A member enquired what was meant by minimally adjusted studies.
27. PS explained that the term minimally adjusted described studies that had only been adjusted for a small number of confounders, for example a number of studies were only adjusted for age. The rationale was applied on a case by case basis depending on which confounders the studies adjusted for. There were also instances where studies have only adjusted for age because authors found that adjusting for other factors did not alter the findings.
28. Members requested that the rationale for what constitutes a minimally adjusted study is included in the text.

**Action: Peter Sanderson**

29. It was highlighted that studies using both the AOAC and Englyst definition of fibre were analysed together in the pooled analysis.
30. The Park et al., 2005 paper conducted an analysis of subjects with the lowest intake of

fibre and found that they had a 20% increase in the risk of developing colorectal cancer compared to those with higher intakes.

31. This finding infers that an absence of fibre could be harmful and there is also the question of whether a threshold exists above which no additional benefit for colorectal cancer risk occurs. Members agreed that these issues should be included in the review.
32. A member raised the issue of whether there is likely to be publication bias. PS confirmed that the more recent studies report on all colon and rectal cancer cases, compared to the earlier studies that were less adjusted and did not report on all outcomes .
33. It was recommended that the number of colon and rectal cases are included in the tables.

**Action: Peter Sanderson**

34. Dr Cliff Gay from the Agency's Statistics Branch joined the meeting during the colorectal cancer discussion to provide some background to the meta-analytical methods used in the colorectal health review. It was explained that a test for heterogeneity should firstly be performed to inform the method of meta-analysis to be used. If a large degree of heterogeneity is observed the reason for this should be investigated. Fixed effect meta-analysis models assume little heterogeneity between studies and would put greater weighting on large studies. The disadvantage of this method is that a large study may have weaknesses in its study design, compared to smaller studies that may have been better conducted but will carry less weight. Whereas the random effect meta-analysis models allow for heterogeneity between studies and would, therefore, weight the studies differently. Nutritional epidemiological studies contain many parameters which can vary e.g. measurement of exposure, differences in subject characteristics, the number of confounders adjusted for etc. Therefore, these studies are more likely to display greater heterogeneity than clinical drug trials and so it can be argued that a random effects meta-analysis model should be used for dietary studies.
35. Members suggested that a commentary is included where heterogeneity between studies is observed and the rationale for the meta-analysis model used.

**Action: Peter Sanderson**

36. Members discussed what approach should be taken regarding the choice of meta-analysis. It was suggested that if the results of both models give similar results, random effects meta-analysis should be used. However, where the results of one model differs to the extent that it would lead to a different interpretation such as in the fixed effect model in Table 80, intake of dietary fibre in prospective cohort studies and the risk of colon cancer, this would need to be considered further.

37. The Chair noted that the analyses containing the Park et al., 2005 pooled analysis are very robust and that recommendations should be based on these alone. Therefore, the other analyses should be placed in the appendices. However, where differences exist in interpretation of findings this should be highlighted in the text.

**Action: Peter Sanderson**

38. A member raised the issue of whether the Working Group are happy to base public health recommendations based on 95% confidence intervals. The Chair recommended at this stage to continue with this approach.

39. Members noted that although a significant association is observed with dietary fibre, no significant associations are seen with its components. It was suggested that the fibre components should appear in the appendix with a statement in the text of the main body of the report that a significant association is only observed with fibre and not its components.

40. A member enquired whether studies which investigated fruit and vegetable fibre had controlled for cereal fibre. It was agreed that this should be checked.

**Action: Peter Sanderson**

41. A member suggested performing a combined analysis on fruit and vegetable intake and the risk of colorectal cancer, as it fits better with public health messages.

42. A member commented that it is difficult to interpret from the data whether fibre intake

should be increased or not.

43. It was enquired whether any studies had been excluded on the basis of poor quality. Members were informed that no studies had been excluded except in the analyses excluding studies which had only reported results from minimally adjusted models.

44. It was noted that the study by Higginbotham et al., 2004 demonstrated an increased risk of colorectal cancer, therefore it was suggested that a commentary on the possible reasons for this the finding should be included in the text.

**Action: Peter Sanderson**

45. A member noted that the Sansbury et al., 2009 paper on super compliers was included in the reference list but had not been discussed in the text. It was agreed that the data following eight years of follow up should be included.

**Action: Peter Sanderson**

46. A member highlighted that it could be that the duration of RCTs investigating cancer may not be long enough for an effect to be observed. Data should be interpreted with some caution since compliers in intervention trials may be different to those that demonstrate poor compliance.

47. The deCosse et al., 1989 trial should be omitted because the authors have not presented relevant data.

48. The UK public health relevance of including urea salvage as an outcome was questioned, therefore, it was agreed to place this information in brackets so that it can be considered at a later date.

**Action: Secretariat**

49. PS gave a summary of the changes he had made to the normal and clinical colorectal aspects of the paper.

50. Members discussed the correlation between NSP and AOAC in table 2 and it was queried whether AOAC intakes were available for the UK, so they can be compared to European diets. The Secretariat agreed to ask colleagues in the Diet and Nutrition Survey's Branch for this information.

**Action: Secretariat**

51. PS informed the Working Group that there were no published RCTs for oats and transit time or faecal output, only before and after studies. Members agreed that different approaches should be included in the review, but clarification should be given in the text that no RCTs were available.

52. Under the inclusion criteria section on page 10 it was agreed that sub headings would make the text clearer.

53. Members agreed that paragraph 66 was too strong, as the evidence was too limited to draw conclusions.

**Action: Secretariat**

54. Members agreed to discuss the summary section at a future meeting.

**Agenda item 3 – Discussion of SACN fibre definition in relation to data presented in draft papers on carbohydrates and colorectal health and colorectal cancer (SACN/Carbohydrates/10/16).**

55. Due to the meeting overrunning, the Chair decided that this item should be discussed at a future meeting

**Agenda item 6- Future Work Programme**

56. Members agreed that the cardiometabolic health review would be discussed at the start of the next meeting, followed by the remainder of the colorectal health review if time permitted.

**Agenda item 7- AOB**

57. No points were discussed under this Agenda item.

**Date of next meeting**

58. The date of the next meeting is scheduled for 18th November 2010.

59. The Chair closed the meeting and thanked members for their attendance.

**Meeting close**