

Scientific Advisory Committee on Nutrition

Subgroup on Maternal and Child Nutrition (SMCN)

Paper for information: Salt and Health – Draft Report of SACN for Consultation

Agenda item: 3

SACN Members were sent the full draft of the SACN report on Salt and Health in November 2002. The draft report has undergone a period of consultation and is due to be discussed at the SACN meeting on 12th February 2003.

Please find attached relevant excerpts of the draft report with regard to infants and children. Please see full draft report for relevant references.

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Salt and Health – Draft Report of SACN for Consultation

1.0 SCIENTIFIC ADVISORY COMMITTEE ON NUTRITION: SALT SUBGROUP

- 1.1 The relationship between salt and blood pressure was last considered by the Committee on Medical Aspects of Food and Nutrition Policy (COMA) in 1994, which recommended a reduction in the population average intakes of salt to 6g per day for adults (DH, 1994). Representations continue to be received from interested parties regarding the extent to which evidence linking salt intake and hypertension has been further considered since 1994.

Terms of reference

- 1.2 In September 2001, the Food Standards Agency, supported by the Chief Medical Officer (CMO) of Wales, asked the Scientific Advisory Committee on Nutrition (SACN¹) to:
- review the evidence since the 1994 COMA recommendations on salt intake, taking into account the submissions that had been received from interested parties;
 - consider making recommendations for children.

6.0 INFANTS AND CHILDREN

Physiological requirements for sodium

- 6.1 In early infancy, adaptive mechanisms are geared for the levels of sodium in breast milk. Compared to adults, the ability to excrete sodium loads is reduced and sodium tends to be retained (Spitzer et al, 1982). The Subgroup concluded that the sodium levels provided in breast milk are adequate for growth and development. The Subgroup did not consider the requirements for premature infants. **(DN: range of sodium content in breast milk and infant formulas to be added)**
- 6.2 The Subgroup noted that for infants, LNRI values for sodium were previously estimated from sodium intakes supplied through breastfeeding (DH, 1991) and

¹ SACN succeeded COMA in 2001.

were based on the upper end of the breast milk reference intake range. These values therefore represent the intakes of nearly all breastfed infants and would be better regarded as approximating the estimated average requirement (EAR). The COMA DRV panel (DH, 1991) based RNI values at 2 standard deviations above the EAR to account for the requirements of the majority of the population. This precautionary approach has also been applied by the Subgroup to derive the RNI from birth to 12 months of age (see Table 2).

- 6.3 For children, no data could be found on the physiological ranges required for sodium homeostasis. The LRNIs for children (see Annex 5) were estimated factorially by calculating daily increments in total body sodium content allowing for changing body composition and compartmentation such as the declining proportion with age of ECF in body mass and for dermal, faecal and some urinary losses (DH, 1991). These values were considered to be appropriate by the Subgroup.

Summary and conclusions

- 6.10 For infants, the Subgroup agreed that the sodium levels contained in breast milk are adequate to maintain health. For children there is a lack of data available regarding the physiological range required for sodium homeostasis. The Subgroup agreed RNI figures for infants and endorsed the RNI values previously agreed by COMA (DH, 1991) for children (see Table 2).
- 6.11 There is insufficient evidence to be precise about upper limits for salt intake in relation to cardiovascular risk in children. Rising levels of obesity and lower levels of physical activity increase the potential for occurrence of metabolic syndrome at younger ages and highlight the importance of obesity prevention through lifestyle measures such as a balanced diet and physical activity.
- 6.12 The Subgroup agreed target average population salt intakes for children, for different age groups (presented in Table 2). These values have been estimated on the same basis used to derive the recommended target salt intake for adults, i.e. an increase in the RNI by a factor of 1.5.

Table 2: *Reference nutrient intakes (RNI) for sodium & target average salt intakes for infants & children*

Age	RNI*		Target average salt intake (g/d)
	sodium mmol/d (mg/d)	salt (g/d)	
0-6	8 (184)	0.5	<1
7-12 months	12 (276)	0.7	1
1-6 years	26 (598)	1.6	2
7-14 years	60 (1380)	3.6	5

(*The RNI for children in the 1-6y age group represent averages of the RNIs of 1-3y & 4-6y age groups; the RNI for 7-14y age group represents the averages of the 7-10y & 11-14y age groups)

- 6.13 The Subgroup emphasised that the target average salt intake recommended for each age group does not represent an optimal or ideal consumption level for infants and children but an achievable population goal.
- 6.14 Further research is needed to assess the levels of salt in children's diets, which may influence blood pressure independently of other factors. Nevertheless, it would be inadvisable for children in the UK to become accustomed to the levels of salt intake currently habitual in adults, as the evidence suggests long-term consumption of current levels being potentially harmful in adult life. All consumers, including children, should be aware of the major sources of salt in their diet, be encouraged not to add salt to food, and to be aware of the salt content of processed foods.
- 6.21 The evidence of a contribution from salt intake to raised blood pressure in children is limited and it is not clear whether sodium intake in isolation is a factor in the development of hypertension in the young which then tracks into adulthood. More work is needed in this area before firm conclusions can be drawn.