



**Paper for discussion: Draft scope and Terms of Reference for
a review of complementary and young child feeding**

Agenda Item: 3

Please see paper attached.

DRAFT

REVIEW OF COMPLEMENTARY AND YOUNG CHILD FEEDING

INTRODUCTION

1. At the last SACN Horizon Scanning meeting in October 2009, SMCN proposed a review of the scientific evidence underpinning United Kingdom infant and young child feeding policy. Since the Committee on Medical Aspects of Food Policy (COMA) published its report 'Weaning and the weaning diet' in 1994, there has not been a thorough risk assessment of such evidence in the UK. More recent recommendations made by SACN since the 1994 review, may also have implications for current advice on infant feeding (e.g. adoption of WHO Growth Standards, revisions to energy requirements etc). SACN members agreed that this work was a high priority and should form part of the Committee's work programme over the next few years.
2. At the last SMCN meeting in September 2010, the Subgroup was presented with a draft scope for the review (SMCN/10/08). Members agreed that the review should consider only healthy term infants (in keeping with SACN's terms of reference) and cover infants and young children aged 0-5 years, focusing on children aged 0-2 years as a starting point. The Subgroup also highlighted the lack of food-based guidance for the 2-5 year age group.
3. It was agreed that the review should begin by appraising current recommendations for infants and young children in the UK, and consider the need for updating these. Reviewing aspects of maternal diet that may affect the infant during breastfeeding may also be appropriate in the context of infant feeding, and so forms part of the approach set out below.
4. The Secretariat has summarised relevant current advice and the origin of the advice in Annex 1. Drawing on this, the Secretariat has outlined a proposed approach for critically appraising these recommendations. Draft Terms of Reference are then proposed in the subsequent section.

ASPECTS OF CURRENT RECOMMENDATIONS THAT MAY REQUIRE REVIEW

5. The following sections are presented in three main areas: a) maternal diet during breastfeeding, b) diet in infants and young children, and c) behavioural aspects of infant feeding. Since some aspects of these areas have been updated relatively recently (e.g. advice on peanut consumption for young children in 2009) the Subgroup may wish to simply reiterate existing recommendations in the absence of any new evidence, in order that the review is comprehensive.

a) Review aspects of maternal diet that may affect the infant during breastfeeding, including:

- **Consider whether there is a need to revise current nutrient and dietary recommendations for lactating women. Particularly**

consumption of foods or ingredients which may be transferred to the infant through breastmilk, including:

- Alcohol consumption*
- Peanut consumption*
- Fish consumption*
- Caffeine*

b) Feeding and nutrition of infants and young children, including:

- **Energy requirements**
 - Consider implications of the revised energy requirements for diet in young children.
- **Appropriate timing for introduction of solid foods**
- **Appropriate use of breastmilk substitutes (not composition)**
 - Infant formula
 - Follow-on formula
 - Partially hydrolysed infant formula
 - Soya-based infant formula
 - Goat's milk-based infant formula
 - Good Night Milk Drinks (reviewed by SACN in 2008)

Note: Extensively hydrolysed infant formula is prescribed for medical purposes and a risk assessment not required

- **Milk**
 - Suitability of cow's milk as a drink before 12 months
 - Suitability and age of introduction of semi-skimmed milk, skimmed and 1% milks (see also section on revised energy requirements and implications for diet below)
 - Other milks e.g. suitability of sheep and goat's milks
- **Other drinks**
 - Water (particularly for formula fed infants before 6 months)
 - Fruit juice and squash
 - Tea and coffee
 - Artificial sweeteners*
 - Rice drinks (arsenic in rice drinks reviewed in 2009)
 - Other cereal drinks

* Indicates additional expertise to be coopted onto the Working Group as required e.g. from the Committee on Toxicity

- **Foods to avoid before 6 months, if a mother chooses to introduce solids before 6 months**
 - Allergenic foods* (including wheat and other foods containing gluten, peanuts, nuts , seeds, eggs, fish and shellfish)
 - Liver*
 - Pate*

- **Food based guidance during early childhood**
 - Salt (i.e. are current SACN recommendations achievable with current advice?)
 - NMES intake (e.g. appropriate advice for fruit juice/smoothies/puree etc)
 - Nuts*
 - Fish*

Note: Advice to avoid raw shellfish, undercooked eggs, shark, marlin and swordfish, soft and unpasteurised cheeses, and honey are food safety issues and need not be considered in the review

- **Vitamin supplements**
 - Requirement for vitamin supplements for infants and young children i.e. suitable vitamin supplements and age required

c) **Behavioural aspects of infant feeding: introducing other drinks and solid foods:**

- **Amount and types of food**
 - **Portion size**
 - **Textures of food offered**
 - **Pace of complementary feeding**
 - **Taste perception and factors affecting acceptance of foods**
6. Members agreed that the review should draw on ongoing surveillance data from the Infant Feeding Survey, National Diet and Nutrition Survey (NDNS) and Diet and Nutrition Survey of Infants and Young Children (DNSIYC).
7. The review of the evidence will be undertaken in accordance with the principles described in the SACN working document *A Framework for the Evaluation of Scientific Evidence*.

* Indicates additional expertise to be coopted onto the Working Group as required e.g. from the Committee on Toxicity

COMMITTEE MEMBERSHIP

8. It is proposed that SMCN undertake the review, with expertise from other areas co-opted as appropriate e.g. the Committee on Toxicity (COT).

DRAFT TERMS OF REFERENCE

9. The proposed Terms of Reference for the review are:
 - a) To review the nutritional basis for current dietary recommendations applying to breastfeeding mothers (where relevant to the health of the infant)
 - b) To review current recommendations for complementary and young child feeding, considering new evidence where available and drawing on ongoing surveillance data
 - c) To review scientific evidence on the behavioural aspects of infant feeding relevant to diversification of the diet

DISCUSSION

10. The Committee is asked to consider the above approach, and particularly the following questions:

- **Are there other areas in addition to those outlined above that should be considered in the review?**
- **Do members feel that areas should be selected for more specific examination? What criteria could be applied to achieve this?**
- **Does the Subgroup agree that the Terms of Reference adequately capture the required scope of the review?**
- **What additional areas of expertise are required for the review?**
- **Are there any particular areas of the work that require the evidence to be reviewed systematically?**

ANNEX 1 – Summary of government dietary advice for breastfeeding women, and infants and young child feeding

Summary of Department of Health for breastfeeding women and evidence to inform them

	DH Recommendation	Findings of evidence review
Whilst breastfeeding	<p>Healthy balanced diet:</p> <p>Breastfeeding mothers should have a varied and balanced diet.</p> <p>Fluids:</p> <p>Breastfeeding mothers should drink plenty of fluid – at least 1.2 L each day.</p> <p>Fish:</p> <p>Breastfeeding mothers should not consume more than 2 portions of oily fish per week.</p> <p>As for all adults, breastfeeding mothers should avoid eating more than one portion of shark, swordfish or marlin a week</p>	<p>DH pragmatic advice</p> <p>SACN/COT (2004) Advice on fish consumption: benefits and risks:</p> <p>Women of reproductive age should consume up to 2 portions of oily fish per week.</p> <p>Regular consumption of more than one portion of shark, swordfish or marlin per week could be associated with a risk of neurotoxicity in adults.</p>

	<p>Vitamin D supplementation:</p> <p>Breastfeeding mothers should take a vitamin D supplement of 10 µg each day.</p> <p>Caffeine:</p> <p>Breastfeeding mothers should avoid drinking too much strong tea or coffee (only occasionally rather than every day).</p> <p>Alcohol:</p> <p>When breastfeeding women should drink no more than 1 or 2 units once or twice a week.</p> <p>Peanuts:</p> <p>If a mother would like to eat peanuts whilst breastfeeding, she can choose to as part of a healthy balanced diet, unless she is allergic to them or a health professional advises otherwise.</p>	<p>COMA (1991) Dietary reference values for food energy and nutrients for the UK, reiterated by SACN (2007) update on vitamin D:</p> <p>All breastfeeding women should consider taking a daily supplement of vitamin D in order to ensure their own requirement for vitamin D is met and to build adequate fetal stores for early infancy.</p> <p>DH pragmatic advice</p> <p>DH pragmatic advice</p> <p>COT (2008) Statement on the review of 1998 COT recommendations on peanut avoidance:</p> <p>Overall, the evidence now available does not indicate whether maternal dietary consumption of peanut during (pregnancy or) lactation is more likely to increase or decrease the risk of sensitisation and allergy to peanut in the child.</p>
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Summary of Department of Health infant and young child feeding recommendations and evidence to inform them

	DH Recommendation	Findings of evidence review
0-6 months	<p>Breastfeeding:</p> <p>Exclusive breastfeeding for around first 6 months</p> <p>Vitamin supplements:</p> <p>Breastfed infants under 6 months do not need vitamin D supplementation provided the mother had taken vitamin D supplements during pregnancy.</p> <p>If a vitamin D supplement has not been taken during pregnancy, vitamin supplements may be suitable from 1 month for breastfed infants.</p>	<p>WHO (2001) The optimal duration of exclusive breastfeeding: Report of an expert consultation; endorsed by SACN (2001):</p> <p>Exclusive breastfeeding for first 6 months</p> <p>COMA (1994) Weaning and the weaning diet:</p> <p>Breastfed infants under 6 months do not need vitamin supplementation provided the mother had adequate vitamin status during pregnancy.</p> <p>Where there is any doubt about the mother's vitamin status, supplementation should begin at age 1 month</p>
	<p>Infant formula:</p> <p>Infant formula may be used as an alternative when mothers do not breastfeed or choose to supplement breastfeeding. Follow-on formula is not recommended as a replacement for breast milk or infant formula before 6 months.</p>	<p>COMA (1994) Weaning and the weaning diet:</p> <p>For infants who are not being breastfed, infant formula offers a satisfactory sole source of nutrition to age 6 months, and in the early stages of a mixed diet they continue to provide the majority of energy and nutrients.</p>

	<p>Vitamin supplements:</p> <p>Formula fed infants do not need vitamin supplements provided they consume >500ml formula per day</p>	<p>COMA (1994) Weaning and the weaning diet:</p> <p>Bottle fed infants who are consuming 500ml infant formula or follow-on formula a day do not need vitamin supplementation because these manufactured products are fortified with vitamin D</p>
	<p>'Good night' milks:</p> <p>'Good night' milks are not suitable for babies under 6 months of age. They can be introduced later but there are no proven health benefits.</p>	<p>SACN statement on 'Good night' milks (2008):</p> <p>'Good night' milks are breastmilk substitutes, which should be labelled and marketed appropriately.</p> <p>The Committee was unable to identify any published scientific evidence to support a claim that "Good Night" milks offer nutritional or other health advantage over the use of infant formula or follow-on formula.</p>
	<p>Soya-based formula:</p> <p>Soya-based formula should not be used unless prescribed by a GP.</p>	<p>COMA (1994) Weaning and the weaning diet:</p> <p>Soya infant formulae should not be a first choice unless there is a specific reason for excluding cow's milk products from the diet. They have been developed for infants who are not being breastfed where there is intolerance of cow's milk protein. However, infants at risk of allergy may also become sensitive to soy proteins, particularly if the cow's milk intolerance has manifested gastrointestinal symptoms. Soya milk formula is suitable for formula fed infants who are lactose intolerant.</p> <p>COT (1996) Statement on phytoestrogens:</p> <p>We endorse the advice of the Department of Health that</p>

		breast milk and cows' milk formulae are the preferred sources of nutrition for infants. However, women who have been advised by their doctor or other health professionals to feed their baby soy-based formulae should continue to do so.
	<p>Partially-hydrolysed infant formulae:</p> <p>Partially-hydrolysed infant formulae are not recommended.</p>	<p>Joint statement of the European Society for Paediatric Allergology and Clinical Immunology (ESPACI) Committee on Hypoallergenic Formulas and the European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) Committee on Nutrition (1999) Dietary products used in infants for treatment and prevention of food allergy.</p> <p>Infants with cows' milk protein allergy who are not breast fed should receive a dietary product with highly reduced allergenicity based on "extensively" hydrolysed protein or, in selected cases, a product based on an amino acid mixture.</p> <p>Diets based on unmodified proteins of other species' milk (for example, goats' or sheep's milk), or so called "partially" hydrolysed formulas should not be used for the treatment of cows' milk protein allergy.</p>
	<p>Extensively-hydrolysed infant formulae:</p> <p>These formulae should not be used unless prescribed by a GP.</p>	<p>COMA (1994) Weaning and the weaning diet:</p> <p>There is long standing clinical experience that foods in which the protein has been modified by hydrolysis are less allergenic than foods using the same protein whole. They have an important role in clinical management of highly sensitised individuals with confirmed allergy.</p>

		Joint statement of the European Society for Paediatric Allergology and Clinical Immunology (ESPACI) Committee on Hypoallergenic Formulas and the European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) Committee on Nutrition (1999) Dietary products used in infants for treatment and prevention of food allergy. As above.
	Other drinks: Infants under 6 months should not drink fruit juices	COMA (1994) Weaning and the weaning diet: Milk (including breast milk and infant formulae) or water should constitute the majority of total drinks given.
	Foods to avoid if solids are introduced before 6 months Some foods should be avoided if solids are introduced before 6 months: Allergenic foods: Introduction of foods traditionally regarded as allergenic (wheat and other foods containing gluten, peanuts, nuts, seeds, eggs, fish and shellfish) should be delayed until 6 months at the earliest. Liver: Some foods should be avoided if solids are introduced before 6 months: liver	COMA (1994) Weaning and the weaning diet: Where there is a family history of atopy or gluten enteropathy, mothers should be encouraged to breastfeed for 6 months or longer. Weaning before 4 months should be particularly discouraged and the introduction of foods traditionally regarded as allergenic should be delayed until 6 months at the earliest. FSA/DH (2009) Pragmatic decision based on high levels of vitamin A.

	<p>Pate (including vegetable pate) and soft and unpasteurised cheese:</p> <p>Some foods should be avoided if solids are introduced before 6 months: pate and soft and unpasteurised cheese.</p>	<p>FSA food safety advice (soft cheeses are able to support growth of <i>Listeria monocytogenes</i>, and unpasteurised milk is more likely to contain food poisoning bacteria than pasteurised milk).</p>
From 6 months	<p>Age of introduction of solid foods:</p> <p>Introduction of solid food is not recommended until the baby is developmentally ready, which is generally around 6 months.</p>	<p>WHO (2001) The optimal duration of exclusive breastfeeding: Report of an expert consultation; endorsed by SACN (2001):</p> <p>Exclusive breastfeeding for first 6 months</p>
From 6 months	<p>Vitamins:</p>	<p>COMA (1994) Weaning and the weaning diet:</p> <p>Adequate vitamin and mineral status should be encouraged for mother and baby through a varied diet and moderate exposure to summer sunlight. Foods and drinks which provide good sources of vitamin C should be encouraged in the weaning diet. Vitamin C in adequate amounts should be ensured with meals to assist absorption, particularly if the diet is meat-free.</p> <p>Gregory et al. (1995) National Diet and Nutrition Survey:</p> <p>Dietary intakes and plasma concentrations of vitamin C were shown to be independently related to socio-economic status. Lower vitamin C intakes were associated with manual class and receipt of benefits.</p>

	<p>Vitamin supplements for breastfed infants:</p> <p>From 6 months, infants receiving breast milk as main drink should be given supplements of vitamins A, C and D.</p> <p>Vitamin supplements for formula infants:</p> <p>Formula fed infants should be given vitamin supplements containing vitamins A, C and D once they consume <500ml formula per day.</p>	<p>COMA (1994) Weaning and the weaning diet:</p> <p>From 6 months, infants receiving breast milk as main drink should be given supplements of vitamins A and D.</p> <p>COMA (1994) Weaning and the weaning diet:</p> <p>Formula fed infants should be given vitamin supplements containing vitamins A and D once they consume <500ml formula per day.</p>
<p>From 6 months</p>	<p>Added salt and sugar:</p> <p>Babies should not eat much salt as their kidneys cannot cope with it. Do not add salt to your baby's food or use stock cubes or gravy as they are often high in salt.</p> <p>Babies do not need sugar added to their food. Avoiding sugary snacks and drinks will help prevent tooth decay.</p>	<p>COMA (1994) Weaning and the weaning diet:</p> <p>Salt should not be added to foods.</p> <p>Additional sugars should be limited to that needed for the palatability of sour fruits. Weaning foods should usually be free of, or low in, NMES including sugars derived from fruit juices and fruit concentrates.</p> <p>For groups of children the average intake of NMES should be limited to about 10% total dietary energy intake [Note this does not appear in COMA (1991) Dietary Reference Values].</p>

From 6 months	Drinking vessels: Infants should be introduced to drinking from a cup.	COMA (1994) Weaning and the weaning diet: Infants should be introduced to drinking from a cup.
6-9 months	Amount and types of food: The aim is for your baby to get used to eating a wide variety of ordinary foods and to your pattern of eating – say, 3 meals a day with a drink at each meal and 2/3 small healthy snacks.	COMA (1994) Weaning and the weaning diet: The amount and variety of foods including meat, fish, eggs, all cereals and pulses should be increased and the number of milk feeds decreased.
Under 1 year	Cow's milk: Cow's milk should not be introduced as a main drink until the infant is 1 year old. Other milks including sheep's and goat's milk: Also condensed milk, evaporated milk, dried milk, sheep's milk and goat's milk should not be given to an infant under age 1 year.	COMA (1994) Weaning and the weaning diet: Pasteurised cow's milk should not be introduced as a main drink until the infant is 1 year old. COMA (1994) Weaning and the weaning diet: Goat's and sheep's milk should not be given to infants but maybe given from the age of one year so long as precautions against mineral and vitamin deficiencies are taken and that due regard is paid to microbiological safety.
Under 1 year	Goat's milk-based formula: Goats milk-based formula should not be given to infants under 1 year	Legislation on infant and follow-on formulae composition (Directive 2006/141/EC):
Under 1 year? not clear	Shellfish: Raw shellfish should be avoided for babies	FSA food safety advice (Bivalve molluscs such as oysters, mussels and clams are filter feeders which means that if there is any pollution in the water they live in, this will pass through the shellfish as they filter the water for food and can build up in the shellfish. This can mean that they contain harmful viruses and bacteria when eaten raw

		or without being thoroughly cooked.)
Under 1 year? not clear	Eggs: Ensure eggs are well cooked for babies	FSA food safety advice (raw eggs may contain Salmonella)
Under 1 year	Honey: Honey should not be given to babies until one year old.	FSA food safety advice
From 1 year	Amounts and types of food: The aim is for your baby to get used to eating a wide variety of ordinary foods and to your pattern of eating – say, 3 meals a day with a drink at each meal and 2/3 small healthy snacks.	COMA (1994) Weaning and the weaning diet: By 1 year the diet should be mixed and varied. 3 meals and 2/3 snacks per day are suggested.
From 1 year	Drinking vessels: Feeding from a bottle should be discouraged.	COMA (1994) Weaning and the weaning diet: Feeding from a bottle should be discouraged.
From 6 months to 5 years	Vitamins: Vitamin A, C and D supplements should be given from 6 months unless adequate vitamin status can be assured from a diverse diet containing vitamin A- and D-rich foods and from moderate exposure to sunlight.	COMA (1994) Weaning and the weaning diet: From age 1 year all young children should be given vitamin A and D supplements unless adequate vitamin status can be assured from a diverse diet containing vitamins A and D rich foods and from moderate exposure to sunlight. Vitamin supplements should be continued to the age of 5 years unless the child's diet is diverse and plentiful.

		<p>From 6 months, infants receiving breast milk as main drink should be given supplements of vitamins A and D.</p> <p>Formula fed infants should be given vitamin supplements containing vitamins A and D once they consume <500ml formula per day.</p> <p>Gregory et al. (1995) National Diet and Nutrition Survey:</p> <p>Dietary intakes and plasma concentrations of vitamin C were shown to be independently related to socio-economic status. Lower vitamin C intakes were associated with manual class and receipt of benefits.</p>
Under 2 years	<p>Semi-skimmed milk:</p> <p>Semi-skimmed milk should not be given until two years of age, and provided the child is a good eater and growing well.</p>	<p>COMA (1994) Weaning and the weaning diet</p> <p>Semi-skimmed cow's milk is not suitable as a drink before the age of two years but thereafter it may be introduced gradually if the child's energy and nutrient intake is otherwise adequate and if growth remains satisfactory.</p>
Under 2 years	<p>Dietary fat:</p> <p>It is better for babies and young children under two to have full-fat milk, yoghurt and cheese.</p>	<p>COMA (1994) Weaning and the weaning diet:</p> <p>Advice to reduce fat/saturated intake does not apply to infants under age 2 years.</p>
2-5 years	<p>Dietary change:</p> <p>Advice based on food groups: a variety of foods from the four groups: fruit and vegetables; bread, other cereals and potatoes; meat, fish and other proteins; milk and dairy products.</p>	<p>COMA (1994) Weaning and the weaning diet:</p> <p>A flexible approach is recommended to the timing and extent of dietary change for individual children in this age range.</p>

<p>Under 5 years</p>	<p>Nuts:</p> <p>Whole nuts should not be given to children under 5 years due to risk of choking.</p> <p>Peanuts can be introduced into the infant diet after 6 months. Parents of infants with a family history of allergy are advised to seek advice from a health professional before introducing peanuts to the infant diet.</p>	<p>Not clear.</p> <p>COT (2008) Statement on the review of 1998 COT recommendations on peanut avoidance:</p> <p>Human data relating dietary consumption or avoidance of peanut or other allergenic foods in childhood to the development of sensitisation or allergy or tolerance to peanut, are limited and inconsistent. Data from animal studies suggest that, for peanut proteins and ovalbumin, the nature of the immune response may depend on dose, with high exposures tending to induce tolerance and low exposures sensitisation. However, there are no comparable published data for humans at this time.</p>
<p>Under 5 years</p>	<p>Skimmed and 1% Milk:</p> <p>Skimmed and 1% milk should not be given until 5 years of age.</p>	<p>COMA (1994) Weaning and the weaning diet:</p> <p>Fully skimmed milk should not be given until the child is over 5 years old.</p> <p>FSA addition of 1% milk; modelling exercise conducted.</p>
<p>Under 5 years</p>	<p>Other drinks:</p> <p>Squashes, flavoured milk and juice drinks, diet drinks and no added sugar drinks, tea and coffee and fizzy drinks should not be given to babies & toddlers.</p>	<p>COMA (1994) Weaning and the weaning diet:</p> <p>Milk (including breast milk and formulae) and water should constitute the majority of drinks given. Other drinks should be confined to mealtimes because of risk to dental health; they should not be given in a bottle or at bedtime.</p>

	Infants and young children aged 1 to 5 years should not be given rice drinks	<p>FSA (2009) Arsenic in rice research:</p> <p>As a precaution, toddlers and young children between 1 and 4.5 years old should not have rice drinks as a replacement for cows' milk, breast milk, or infant formula.</p>
Under 5 years (16 years)	<p>Fish:</p> <p>Boys should eat up to 4 portions of oily fish per week and girls up to 2 portions of oily fish per week</p> <p>Children under 16 should avoid eating shark, marlin and swordfish.</p>	<p>SACN/COT (2004) Advice on fish consumption: benefits and risks:</p> <p>Boys should eat up to 4 portions of oily fish per week and girls up to 2 portions of oily fish per week</p> <p>Children under 16 should avoid eating shark, marlin and swordfish.</p>