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NCT Briefing:
Formula Feeding

The NCT believes that parents need access to practical, evidence-based information, independent of commercial interests, to help them decide how to feed their baby; and support from well-trained professionals in the early days and weeks while feeding is becoming established.[1] We want parents to feel confident and comfortable with their feeding decisions, and realise that concerns about health issues will be balanced with social and emotional factors affecting baby feeding decisions. It is important that high quality infant formula milks are available for parents and babies who need them.

This briefing is for NCT workers and others who want to know more about NCT's position on the use of formula milk[i] and follow-on formula and the evidence on which it is based. It covers:

- the ingredients used in formula milks and standards to ensure they are of a consistent quality.
- evidence from social research on cultural influences on baby feeding decisions
- factors affecting the use of formula milk,
- NCT's work to improve the Regulations on formula and follow-on formula in the UK.

Formula milks

Formula milk and follow-on milk are breastmilk substitutes, derived from cow's milk and modified for babies. Their composition is dictated by legislation so all the standard brands are similar.[2] The main nutrients - protein, fat, milk sugar, as well as minerals and vitamins -are designed to ensure babies' growth, using breastmilk as the standard.

Main types of formula

There are two main types of formula, whey-based and casein-based. Whey is the main protein in breastmilk, although it is different from the whey in cow's milk. Casein is the main protein in cow's milk and in the milks labelled stage 2 or 'for hungrier babies'. Casein stays in the stomach longer,[3] but there is no evidence to indicate that casein based milks are more suitable for hungrier babies - the feeds do not contain more energy and the number of feeds recommended each day is not different.

Other specialised formula milks with higher energy, lower lactose, or partially digested proteins are made for babies who are not breastfed but have medical conditions, such an allergy to cow's milk. These should only be used on the advice of a doctor.

The government strongly discourages using goat's milk and soya formula unless this is advised by a doctor.[4] Soya milks are based on glucose rather than lactose and they contain levels of aluminium and phyto-oestrogen that may be harmful in the long term. There are formulas that can be prescribed by paediatricians for non-breastfed babies with health problems related to cow's milk.

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[i] Formula milk is also known as infant formula, artificial milk, baby milk and breastmilk substitute.

Claims have been made by manufacturers about different additives to formula milks; for example long chain polyunsaturated fatty acids (LCPs) were claimed to improve eyesight and intelligence. However, independent reviews of research do not find that the LCPs added make a difference to babies' development.[5] Manufacturers often quote 'scientific evidence' to support their claims for particular brands. Evaluation of claims made in advertisements shows that the studies are often not independent as many have been paid for by the formula milk companies, findings are quoted selectively[6] or the study quoted may not relate to the specific brand for which the claim is being made.

Making up formula feeds

Formula milk is usually made up from dried milk. Care is needed to ensure that this process is carried out safely, using the correct proportion of powdered milk to water and taking steps to avoid the growth of bacteria. If too much powered formula is used a baby may become constipated or even seriously ill as a result of dehydration. If too little formula is used a baby will not receive sufficient nourishment.[7] It is vital that sterilised equipment and boiled water is used for making up feeds.[8] Unfortunately, there is also a very small risk that the powdered milk may be contaminated by bacteria (mainly Enterobacter sakazakii and salmonella). For this reason, it is very important that formula is made up with boiled water that is hot enough to kill the bacteria. Although the chances of a baby becoming infected are very low, the consequences can be serious and lead to life-threatening illnesses such meningitis and septicaemia.[9] Premature, very young and sick babies are the most susceptible to these rare infections. The risks can be reduced by following guidelines on preparation and storage (see NCT information sheet, *Using infant formula: your questions answered.*)

Formula milk can also be bought as a liquid in sizes suitable for an individual feed. This provides the advantages of convenience and knowledge that the feeds are sterile (completely without bacteria) until they are opened. They may be useful for parents when they are away from home and cannot make up formula immediately before a feed, but they are more expensive to use than powdered formula milks.

Factors affecting baby feeding

Many factors influence the way parents feed their babies including cultural values, individual expectations and preferences, legislation and social policies. Some mothers use formula milk from birth, or mix formula and breastfeeding from the early days. Other women change to formula feeding later on for a variety of reasons. Currently, in the UK, a quarter of babies are formula-fed from birth and by six weeks three quarters (76%) have formula either exclusively or in combination with breastmilk.[10] If young people have not seen mothers breastfeeding as part of everyday life and their family and friends have all bottle-fed, they are much less likely to start breastfeeding themselves.[11] Women often express their decision to use formula milk by referring to negative feelings or experiences of breastfeeding.[10] Their partner's views and parents' desire for fathers to be involved in caring for the baby are also very influential factors.[12]

Some mothers mix breastfeeding and formula or change to formula because they are returning to work and do not plan to express at work. In the 2005 Infant Feeding Survey, 22% of women who stopped breastfeeding between 6 and 9 months said this was because they were going back to work or study.

Health factors

There are clinical factors that affect a very small number of women or babies which can influence baby feeding. For example, women in the UK who are HIV positive are recommended not to breastfeed, if using formula milk is acceptable, feasible, affordable, sustainable and safe.[12] Whenever breastmilk is not available for a baby less than 12 months of age, high quality formula milk is needed.[13]

Social, cultural and personal factors

Health professionals' attitudes tend to be less influential on women's feeding decisions than the attitudes and beliefs of their social support networks.[14] These include views on the convenience of bottle-feeding, attitudes towards breastfeeding in the company of other people or in public places, the support required for breastfeeding, fathers' involvement with feeding, as well as mothers' discomfort with, and her previous experience of breastfeeding.[15]

Women's belief in their ability to overcome obstacles and their perception that their choices will make a difference are also factors that influence their baby feeding decisions. Similarly, where women do start breastfeeding, there is some evidence to show that if they perceive that they can manage and be actively involved in decision-making, they are less likely to change to formula feeding within the first few weeks.[16]

Surveys have found that many women do not receive the support, information or practical help with feeding their baby that they need, and that they still receive inconsistent advice.[17,18] NCT works towards all parents receiving the support, understanding and information they need in feeding their baby.

Variation in feeding practices in Europe

In 2005, more than half of babies in the UK had been given formula milk, either exclusively or in combination with breastmilk, by the time they were a week old. This is both evidence of the UK still having a predominantly bottle feeding culture[ii] and perpetuates that culture by reinforcing beliefs and expectations about the way babies will be fed. While use of formula milk is partly a result of choice, it is also a reflection of cultural beliefs and individual perceptions about difficulties associated with breastfeeding and/or perceived convenience of formula feeding; 24% of women start formula feeding but 68% of women stop breastfeeding and change to formula within the first 6 months. Most who stop breastfeeding say that they would have liked to do so for longer.[10] Attitudes, social policies and feeding practices are very different in some other European countries. For example, in Norway, 99% of babies are breastfed at birth, 90% are breastfeeding at 3 months and 80% at 6 months.[19] Legislation and social policy has been used to support breastfeeding in various ways that have not yet been adopted in the UK. For example women are entitled to a year's paid maternity leave and there is very limited advertising of formula milks. In the UK promotion of individual choices in feeding has been regarded as more important than promotion of public health.

Support for Parents

We believe that there is a balance to be struck between promoting public health and supporting informed decision making. It is important that young people growing up see breastfeeding as a normal part of every day life so that they can anticipate their own children being breastfed.

Parents should have ready access to as much information and support as they need to make, and act on, the decisions that they feel are right for them and for their baby. The early weeks and months of a baby's life can be a stressful and tiring time. As feeding is so fundamental to caring for a new baby, any difficulties or concerns can undermine parents confidence or self of wellbeing; for example, 53% of women who stop breastfeeding when their baby is between 2 and 6 weeks old say they concerned about not having enough milk. Others change their method of feeding because of unresolved nipple pain or an unsettled baby. Parents want to do the best they can for their baby, often in difficult circumstances. It is important that they do not feed judged or criticised by health professionals or other parents, but are able to feel comfortable with their decisions.

[ii] The accumulated habits, attitudes, and beliefs of a group of people that define for them their general behaviour and way of life

Further research is required on parents needs for support around baby feeding and into the cause and prevention of common concerns, such as colic, that affect a large proportion of families.

UK regulation of formula and follow-on formula

The *Infant Formula and Follow-on Formula Regulations 2007*[20] in each country of the UK dictate the labelling, composition and conditions of sale for formula milk and follow-on milks. Promotion of formula milk to the public is not allowed and formula milks must not be labelled in such a way that they can be confused with follow-on milks. There are restrictions on the promotion and labelling of infant and follow-on formulae, which must not discourage breastfeeding, and limits on the health claims that can be made in relation to formula. The law also sets out some specific information which must be included in materials about baby feeding.

Follow-on formulas are labelled 'for babies older than 6 months' and are currently widely advertised by manufacturers. Randomised controlled trials have not shown any consistent benefit from the additional iron in follow-on milks compared to infant formula.[21] They were introduced in Europe and widely advertised with prominent brand names, following adoption of the World Health Organization International Code[22] as manufacturers argued that they were not covered by this international agreement.[iii] In common with UNICEF, the NCT understands follow-on milks are breastmilk substitutes and therefore fall under the definition of the Code. Together with other health professional and voluntary organisations, we are lobbying for the loopholes in UK legislation to be closed.

In line with our belief that parents should have practical, evidence-based information, that is independent of commercial interests, the NCT believes that advertising of follow-on formula to the public should be prohibited by law.

References and further sources of information:

Further sources of information:
NCT Briefing: Breastfeeding BF4
NCT Briefing: Health inequalities related to baby feeding BF6
NCT Briefing: Regulations on infant formula BF7
NCT Briefing: Breastfeeding in public places BF9
NCT Briefing: WHO Global Strategy on Infant and Young Child Feeding BF10

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