SPECIALIST FORMULA MILKS

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This article provides an overview of formula milks used for special medical needs, highlighting the important role that healthcare professionals make in prescribing and managing infant feeding when breast milk alone isn't enough to provide the essential nutrients required.

It is well established that breastfeeding is the best way to feed a baby, being important for both the mother and the infant. The World Health Organisation (WHO) recommends that babies are exclusively fed with breast milk until six months of age, after which breastfeeding should be complemented with the introduction of solid foods until the age of two.[1]

If a mother can and chooses to, she should be fully supported by a healthcare professional to breastfeed her infant. However, there are some mothers who cannot, or choose not to breastfeed for a variety of reasons. For these parents, so long as there are no other health concerns for the infant, a standard infant formula milk may be used. Although they cannot provide all the protective factors found in breast milk, formula milks have been specifically developed to contain all the ingredients needed to meet an infant's nutritional requirements.[2] They are safe, rigorously monitored and tightly regulated.[3]

WHEN A SPECIALIST FORMULA MAY BE NEEDED

It is essential that all infants receive optimal nutrition to ensure adequate growth, health and development.[4] An underlying illness or condition can lead to malnutrition, with nutritional deficiencies, stunting and/or wasting presenting. This can be detrimental for an infant as it can lead to long-lasting health implications.[1]

The importance of breast milk for infants who are born prematurely, with a medical condition, or who develop a disease, disorder or a medical condition is universally recognised. For some infants, however, breast milk alone may not be able to provide adequate nutrition, or a parent or carer may choose to formula feed their infant, resulting in a highly regulated[5] scientifically formulated specialist milk being required. These products are medical, intended for the exclusive or partial feeding of infants and young children, and should always be used under the advice of a HCP.

CONDITIONS WHERE SPECIALIST FORMULA MILK MAY BE REQUIRED

There is a diverse range of specialist formula milks available to address a number of conditions which infants can suffer from; it is essential that infants receive the appropriate formula for their individual requirements so that they are able to receive optimum nutrition. The conditions for which a specialist formula milk may be used can vary greatly in terms of their permanence, severity and impact on day-to-day life. The age at which they should be introduced also varies, with some medical conditions being detected at birth by newborn screening, eg, phenylketonuria (PKU), and others having a later onset or diagnosis, such as cow's milk protein allergy (CMPA), which is usually identified between six to 12 months of age.

Cow's milk protein allergy (CMPA)

CMPA is the most common highly complex food allergy in infants and young

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children, affecting around 7% of formula- and mixed-fed infants, 0.5% of exclusively breastfed infants and 2-3% of one- to three-year-old children in the UK.[6] It is an allergic reaction to one or both of the proteins, casein and whey, found in milk. CMPA can be categorised as immediate (IgE-mediated) or delayed (non-IgE-mediated). Symptoms include: skin problems such as eczema and hives, respiratory symptoms and gastrointestinal issues. In worst case scenarios, CMPA can lead to admission to A&E and/or paediatric intensive care units, due to anaphylaxis, and can potentially lead to death. It is important that those affected by CMPA are diagnosed and managed appropriately by a healthcare professional.

For confirmed CMPA in breastfed infants, strict avoidance of cow's milk protein for the mother is currently the safest strategy for management. If this is not possible, or an infant is formula-fed, a specific specialist formula milk can be prescribed, such as an extensively hydrolysed formula (eHF).[7] These are tolerated by the majority of infants with CMPA. However, for those who cannot tolerate an eHF, or for those with severe symptoms, an amino-acid based formula (AAF), which is made-up of free amino acids, should be prescribed,[8] as stated by NICE and the iMAP guidelines.[9,10]

Lactose Intolerance

Infants with lactose intolerance have the inability to digest the carbohydrate lactose because they lack the enzyme lactase, causing gastrointestinal symptoms such as loose stools, abdominal pain, flatulence, bloating and discomfort. Typically, lactose intolerance in infants only lasts from a few days up to a few weeks. It is during this time that a specialist formula milk containing an alternative carbohydrate source to the lactose present in standard formula, plays a vital role in managing the condition and ensuring the continued nourishment, development and health of the child.

Although lactose intolerance can cause similar symptoms, it should not be confused with CMPA. Specialist formula milks for lactose intolerance are not suitable for infants with CMPA as they still contain cow's milk protein.

Preterm

Thanks to advances in antenatal care, an increasing number of preterm babies are surviving. These babies are vulnerable and specialist paediatric dietitians have a critical role to play in making sure that the diet of these infants is effectively managed. Expressed breast milk supplemented by a breast milk fortifier is the preferred method of feeding. However, mothers of preterm infants may be under particular stress, which may affect their milk supply. If so, a specialist ready-to-feed preterm formula may be required,[11] which typically contains higher levels of energy, a higher protein-energy ratio and higher levels of key micronutrients, such as iron and vitamin D, when compared with standard formula. These formulae are designed to support the increased metabolic requirements of preterm infants.

Faltering growth

Faltering growth is a term used to describe an infant who is not gaining weight or length as expected, over a period of time. Causes of faltering growth can include: higher nutritional requirements or an inability to consume enough nutrients to meet requirements, eg, through muscular disorders or respiratory disease; poor swallowing; vomiting and diarrhoea; or poor absorption of nutrients, such as digestive disorders including cystic fibrosis and chronic kidney disease.

Faltering growth may be managed with a specialist high energy formula, which provides more calories and protein than a standard infant formula, to help achieve catch-up growth.

Gastro-oesophageal reflux

Reflux, or gastro-oesophageal reflux, is when stomach acid moves up into the oesophagus, or even into the mouth. It is common for this to happen in infants during or immediately after feeding. However, when the volumes of returned feed are significant and the infant has additional symptoms, such as excessive crying, poor growth and regular vomiting, then either an anti-reflux formula, which is pre-thickened or thickens in the stomach, or a feed thickener added to standard formula, may be required to manage this condition.

THE ROLE OF THE HCP

If an infant shows signs or symptoms which indicate that a specialist product may be required, it is essential that the infant is diagnosed and managed appropriately. Paediatric dietitians

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have the specialist expertise to collaborate with a GP to diagnose, advise and prescribe the appropriate product for an infant, ensuring that sufficient nutrients are provided to safeguard growth and development.

As infants have relatively high nutritional needs and growth trajectories, their nutritional support should be constantly monitored by a healthcare professional. One size does not fit all; as children grow and develop, their nutritional needs change and, therefore, they may need different nutritional inputs at different stages. Moreover, some conditions are characterised by periods of relapse and remission, eg, Crohn's disease, which makes ongoing monitoring even more important. The value of good paediatric dietetic advice in these situations cannot be underestimated.

Not only is a medical condition stressful for the infant, it can be very upsetting for parents or carers. Conditions, such as gastro-oesophageal reflux, lactose intolerance and CMPA, can be very distressing and frightening for the parents of infants who suffer from them.[12] Any concerned parent should be encouraged to see their GP and subsequently be referred to a paediatric dietitian to ensure support is provided and if necessary, the appropriate formula is recommended when their child is unwell and the condition is professionally managed. This eliminates the risk of the parent/guardian receiving inappropriate advice about the dietary management of their child, which could put the health of the infant at risk.

PRESCRIPTIONS OF SPECIALIST FORMULA MILKS

All specialist formula milks available on prescription go through a strict application process, which the Advisory Committee on Borderline Substances (ACBS – the committee responsible for advising the prescribing of foodstuffs) assesses and approves. The ACBS takes into consideration the cost and efficacy of all these specialist formula milks for the dietary management of clinical conditions.

PUTTING NUTRITION AT THE HEART OF PATIENT CARE

The role of a paediatric dietitian in diagnosis, treatment and review is fundamental. Prescribing the appropriate specialist formula milk provides optimal nourishment for all infants with a disease, disorder or medical condition. BSNA supports the following:

- Specialist formula milks to be recognised as an integral part of the management of diseases, disorders and medical conditions which require nutritional support.
- Specialist formula milks to be accessible to all patients who need them. All care pathways should clearly identify how and when a specialist formula milk should be used to help manage a patient's condition.
- Specialist formula milks to be prescribed and used appropriately when needed, and for patients to be regularly reviewed and monitored by a healthcare professional.