Giving advice on breastfeeding

Wendy Jones explains breastfeeding and looks at common problems presented to pharmacists.

Breast milk is the optimal form of nutrition for babies and breastfeeding offers a range of health benefits for both mother and child. For the child, breastfeeding reduces the risk of diarrhoea, hospital admission for lower respiratory tract disease, acute otitis media, diabetes (types 1 and 2), obesity (in adolescence and adulthood), atopic dermatitis, childhood asthma, inflammatory bowel disease, sudden infant death syndrome, urinary tract infections, acute lymphocytic leukaemia and necrotising enterocolitis (a common gastrointestinal emergency in premature babies).

Breastfeeding appears to increase intelligence quotient and decrease the incidence of dental malocclusion. It also lowers blood pressure (1.21mmHg systolic and 0.49mmHg diastolic) and total and low density lipoprotein cholesterol (0.18mmol/L and 0.2mmol/L, respectively) in adulthood.1 For the mother, breastfeeding reduces the risks of breast and ovarian cancer, type 2 diabetes, rheumatoid arthritis and osteoporosis. Mothers who breastfeed are also less likely to suffer from postnatal depression.

Women most likely to breastfeed are:

- First time mothers
- Those who successfully breastfed a previous baby
- Those who left further education after the age of 18 years
- Older in managerial or professional occupations
- Older mothers (eg, 84 per cent of mothers aged 34 years or over compared with 51 per cent of mothers aged 20 years or under)
- Those from minority ethnic groups

In 2005 the initial breastfeeding rate (ie, just after delivery) in England was 78 per cent. It was 70 per cent in Scotland, 67 per cent in Wales and 63 per cent in Northern Ireland. Nevertheless, according to a survey in the same year, 40 per cent of mothers stopped breastfeeding two weeks after delivery because they perceived that the baby would not suck, 21 per cent stopped because of painful breasts or nipples while 29 per cent said they had insufficient milk. Other reasons given included: breastfeeding took too long or was tiring; illness (mother or child); a dislike of breastfeeding; and the fact that the baby could not be fed by others.1 It is important to note, however, that most mothers said they would have liked to have breastfed for longer.

Milk production

Two hormones are involved in breastfeeding: prolactin and oxytocin. Prolactin stimulates...
The baby’s mouth is wide open (see Figure 1). The baby’s mouth is moist, indicating it is sustained rhythmic suck. The mother feels relaxed and sleepy during regular soaked or heavy nappies up to six months in a domestic freezer at –18°C or lower. The baby’s arms and hands are relaxed. No change in shape of the nipple after feeds. Less areola is visible underneath the baby’s chin touching the breast, lower lip rolled down and nose free. The mother experiences no pain on latch or during the feed. Up to two weeks in the freezer compartment of a refrigerator. The mother may experience milk release and feeding. Up to five days in the main part of a refrigerator at 4°C or lower. The baby’s tongue is not in bridge of the nose and is not in the philtrum of the upper lip. The mother’s breasts are not肿胀, lumpy, tender and uncomfortable. A warm compress, bath or shower can be used to soften the breast before a feed, allowing some milk to drip away. Cold compresses after feeds can also help.

**Panel 1: Expressing and storing milk**

Many women now express their milk so their babies can continue to receive breastmilk in their absence (eg, while they are at work). Pharmacists can advise mothers that expressed milk can be stored for:

- Up to five days in the main part of a refrigerator at 4°C or lower
- Up to two weeks in the freezer compartment of a refrigerator
- Up to six months in a domestic freezer at -18°C or lower

Mothers who wish to store breast milk for less than five days can be advised that refrigeration preserves its properties more effectively than freezing. Frozen breast milk should be defrosted in a fridge and should not be refrozen once thawed. Microwave ovens should never be used to warm or defrost breast milk because they can cause uneven heating and result in scalding hot liquid. Microwaving also denatures the proteins in breast milk.

**Panel 2: Indicators of good positioning and attachment**

- The baby’s mouth is wide open (see Figure 1)
- Less areola is visible underneath the baby’s chin than above the nipple
- Chin touching the breast, lower lip rolled down and nose free
- The mother experiences no pain on latch or during the feed
- Audible and visible swallowing of milk
- Sustained rhythmic suck
- The baby’s arms and hands are relaxed
- The baby’s mouth is moist, indicating it is well hydrated
- Regular soaked or heavy nappies
- The mother’s breast softens after feeds
- No change in shape of the nipple after feeds (indicating lack of compression)
- The mother feels relaxed and sleepy during and after feeds (an effect of prolactin)

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**Figure 1: Breastfeeding technique**


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milk production. During pregnancy, prolactin levels rise steadily but milk production is held in check by placental oestrogen and progesterone, which plummet after delivery. Prolactin levels approximately double in response to suckling so as the infant feeds more milk production is stimulated. In the absence of nipple stimulation, prolactin levels fall by half if the mother does not breastfeed (express her milk) levels return to the non-pregnant state by day 7 after delivery.

Breast milk contains a protein called feed-back inhibitor of lactation (FIL) that inhibits milk synthesis. Removal of milk from the breast removes the protein, allowing more milk to be produced. Cutting down on the frequency of feeds or missing of feeds therefore lowers milk production.

Retained fragments of placenta may also inhibit milk production by preventing the decline in oestrogen and progesterone levels.

**Breast milk** Over 200 constituents of breast milk have been identified and these vary depending on the stage of lactation, the time of day and the interval with the preceding feed. Breast milk will also change according to the needs of the child being fed. A newborn’s stomach is about the size of a walnut and is not intended to hold large volumes of milk. In the first two or three days after birth, the mother produces small quantities of colostrum (‘first milk’), which is high in immunoglobulins, antibodies, leukocytes, long-chained polyunsaturated fatty acids, protein and vitamins A and K. Colostrum is richer in minerals and lower in carbohydrates than mature milk and coats the gastrointestinal tract, preventing bacteria and allergens from permeating it. Colostrum is thick, yellowish and creamy, whereas mature milk is thinner, more watery looking and may have a blue tint.

A round day 5 after delivery, the volume of breastmilk increases as the milk “comes in”. Mothers may report a fullness in the breasts because blood flow to the breast increases as well as milk production. The breasts may feel swollen, lumpy, tender and uncomfortable. A warm compress, bath or shower can be used to soften the breast before a feed, allowing some milk to drip away. Cold compresses after feeds can also help.

**Milk release**

When a baby suckles, oxytocin is released from the pituitary gland. This causes the myo-epithelial cells around the milk ducts in the breasts to contract and milk to be expelled. This is known as the milk ejection reflex. The reflex can also be triggered by visual, auditory and olfactory senses so, for example, a mother hearing her baby cry or seeing a photograph of her child might release milk in anticipation of a feed. Most breastfeeding mothers will need to purchase breast pads to prevent leakage onto clothing.

When their breasts begin to release milk, some women report a tingling in their breasts whereas others notice sharp needle-like pains and some are unaware of any sensation. Oxytocin also causes the uterus to contract, which helps to control post-partum bleeding and encourages more rapid involution of the uterus. Uterine cramps (like period pains) may be experienced at each feed during the first few days after delivery. These become more pronounced after each birth and a multiparous mother may need to take analgesics in anticipation of this discomfort.

**Breastfeeding**

Babies should be fed according to need (previously termed “on demand”). A mother will normally be aware of subtle clues showing that her baby is hungry (eg, wriggling) before it cries to be fed. If the baby is allowed to regulate its own consumption it will access the quantity of milk (and fat content) that he or she needs and avoid the possibility of overfeeding.

In the recent past, mothers were told to restrict the time at the breast to 10 minutes per side, to only feed from one breast per feed or to “empty” the breast. This advice has probably produced problems with breastfeeding and led to women abandoning it.

In fact, the time that babies take to feed varies and timing is not necessary. If they are...
correctly positioned and attached at the breast they will suckle until they are satisfied. Generally, babies should come away from the breast by themselves, appearing relaxed and satisfied. After a period of winding, they may need to feed from the second breast but sometimes they will already be full. Either is normal. However, if the second breast is left feeling full, mothers may find it helpful to express a small amount of milk until they are comfortable (see Panel 1).

**Positioning and attachment** The most frequently cited reasons for stopping breastfeeding can all be attributed to problems in latching the baby onto the breast. For example, if a baby is poorly attached he (or she) will cause the mother’s nipples to be sore or cause pain during feeding or in one breast. Panel 2 lists indicators of good feeding technique. Babies who are not attached correctly will have difficulty extracting enough milk and be left hungry and frustrated and a mother may notice that her baby feeds frequently or seems dissatisfied.

Breastfeeding is natural but it is also a learnt behaviour. Almost all mothers can breastfeed provided that they have accurate information and support from their family, community and healthcare system. Nipples do not need to be prepared for breastfeeding and the size of a mother’s breasts or nipples does not exert any influence on her ability to breastfeed. Breast shells have, in the past, been used to correct inverted nipples (those which do not stand erect despite stimulation). They have been shown to have no benefit and should not be recommended. Women with inverted nipples can breastfeed but should be referred to local expert help.

**Problems with breastfeeding**

In addition to advice on breastfeeding, pharmacists may be asked for remedies to treat related conditions.

**Sore nipples** Sore or cracked nipples is a common complaint encountered by pharmacists. However, simply recommending a cream, such as camomile, to apply may be unhelpful — there is little independent evidence of benefit.

White soft paraffin or purified lanolin may be used to promote moist wound healing. It should be applied sparingly to the crack and not the whole nipple. This will prevent a scab forming and the wound deepening each time the baby feeds, but the soreness will not be resolved without attention to feeding technique. Pharmacists could discuss the diagrams in Figure 1 or signpost the mother to other sources of support.

If applied sparingly and after feeds, the cream does not need to be washed off before the next feed (this also covers other topical applications, such as miconazole [see below]) — there is no evidence of absorption of active drugs applied in this way, through breastfeeding.³

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Nipple shields have been advocated to protect sore nipples but there is poor evidence of their benefit.

**Mastitis** Mastitis is an inflammatory condition that usually occurs within 12 weeks of delivery. Symptoms include a red, hot, painful area, normally on one breast. The mother may also have flu-like symptoms. Despite the fact that it is commonly treated with antibiotics, mastitis is not always associated with infection. (It has been suggested that antibiotics work by exerting an anti-inflammatory effect rather than antibacterial activity.)

Milk in the breast leaks out from an area, which has become distended, often due to a blocked duct. The body reacts to the milk as a foreign protein, producing the symptoms of heat and inflammation. Removal of the milk by frequent feeding (or expressing) will often resolve the condition. If the mother continues to feel unwell despite increased feeding and the use of oral ibuprofen, she may need antibiotics (flucloxacillin or erythromycin are generally recommended). Local breastfeeding teams or national helplines can advise the mother on how to improve drainage of the breast.

The true incidence of mastitis is unknown but is quoted as up to 33 per cent of breastfeeding occurrences.

**Blocked duct** Symptoms of a blocked duct are similar to mastitis (a sore area on the breast, which may be red or hot, or both) but precede the flu-like feeling. They can develop in response to physical damage in the area due to a knock or tight clothing pressing onto a full breast. They can also present if a feed is missed suddenly. Again, helping the baby to achieve a better latch so he or she can drain the breast more effectively and feeding frequently will improve the condition.

**Thrush** Thrush on the nipple is described as extremely painful. It is generally associated with a history of cracks and recent use of antibiotics, possibly following a caesarean section. Both nipples are affected and although feeding itself is usually pain free, extreme pain begins afterwards and may last an hour. Both mother and baby need treatment with topical antifungals. Miconazole cream and gel appear to produce rapid resolution of symptoms. The summary of product characteristics for Daktarin oral gel was recently updated to contraindicate its use in babies under four months old (PJ: 3 My, p650).

If the infection permeates the breast the mother may also need oral fluconazole for 10 days (unlicensed indication). This is indicated by pain deep in the breast, which goes through to the shoulder blade and which can last for up to an hour after every feed.

**Medicines during breastfeeding**

Drug manufacturers are not required to license drugs for use by breastfeeding mothers, and they tend to recommend against use. Healthcare professionals left with the respon-
subtle cues can undermine breastfeeding. A review of maternal and child nutrition and guidance on improving the nutrition of pregnant or breastfeeding mothers and children in low-income households is available at www.nice.org.uk.

The Drugs and Lactation Database (LactMed) is available at www.toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?LACT

UNICEF’s Baby Friendly Initiative resources and information on the safety of drugs and other medicines during lactation are available from LactMed at www.babyfriendly.org.uk.

An e-learning programme (Medicines & mothers — challenges in breastfeeding) is available from NHS Education for Scotland (www.nes.scot.nhs.uk).

References

Resources
- The Breastfeeding Network drugline (tel 0844 412 4665) provides advice and information on the safety of drugs in breastfeeding.
- The NICE review of maternal and child nutrition and guidance on improving the nutrition of pregnant or breastfeeding mothers and children in low-income households is available at www.nice.org.uk.
- The Drugs and Lactation Database (LactMed) is available at www.toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?LACT
- UNICEF’s Baby Friendly Initiative
- The NICE Maternal and Child Nutrition Guidelines highlight many ways in which pharmacists can be involved in promoting and supporting breastfeeding, particularly in collaboration with other members of the primary healthcare team. Pharmacists are also encouraged to join initiatives, such as the UNICEF Baby Friendly Initiative.
- Vitamin D supplements: Pharmacists can also advise on supplements. The key points of vitamin D supplements by women and children who are at risk of deficiency is leading to increased incidence of childhoodrickets and adult osteopaenia. Deficiency may be due to lack of dietary consumption and limited skin exposure due to cultural dress, use of sunscreen or location. Mothers who enter pregnancy with low levels of vitamin D may deliver infants with deficiencies perpetuated by inadequate levels in breastmilk. In this population, supplementation of mother and baby is advisable. Levels of vitamin D in preparations such as Sure Start vitamins will not exceed pharmacological doses and can be continued during breastfeeding without the need for plasma monitoring.

The benefits of breastfeeding have been discussed and most mothers can successfully breastfeed, given the correct information and support. However, women should not be coerced into breastfeeding or be made to feel guilty if they choose not to. Mothers may need active support to establish breastfeeding but it is easy to interfere inappropriately. Pharmacists should be aiming to support mothers who have actively chosen this method of feeding but who are experiencing difficulties. In addition, pharmacists can:

- Explain how breastfeeding works
- Signpost mothers to local breastfeeding services (these may be drop in clinics, baby cafes, the health visitor or infant feeding adviser; see p725)
- Provide details of national voluntary or educational organisations and useful websites

Action: practice points
Reading is only one way to undertake CPD and the Society will expect to see various approaches in a pharmacist’s CPD portfolio.
1. With your staff identify how you may be able to better support breastfeeding mothers.
2. Do you have leaflets available? Do you actively offer information and advice?
3. Familiarise yourself with breastfeeding products, such as breast pumps.
4. Find out about your local breastfeeding centres and support.

Evaluate
For your work to be presented as CPD, you need to evaluate your reading and any other activities. Answer the following questions: What have you learnt? How has it added value to your practice? (Have you applied this learning or had any feedback?) What will you do now and how will this be achieved?