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The Family Physician's Role in Preventing Early Termination of Breastfeeding

SUMMARY

Despite the high rate of breastfeeding among mothers as they leave the hospital, early termination of breastfeeding continues to be a problem. A new mother needs considerable education, support and, often, early intervention, not only to initiate breastfeeding successfully, but also to prevent breastfeeding problems occurring and to continue breastfeeding successfully for several months. Knowledgeable health-care providers are the key to promoting and protecting breastfeeding, yet in the community, many of these mothers, lacking the support of such knowledgeable advisers, often terminate early. Family physicians are in a key position to help the nursing dyad. This article looks at the role that family physicians can play in advising and helping mothers, and discusses the management of common breastfeeding difficulties. (*Can Fam Physician 1986; 32:2162-2169*)

SOMMAIRE

Malgré le taux élevé de l'allaitement maternel chez les mères au moment où elles quittent le centre hospitalier, la cessation précoce de l'allaitement continue de nous préoccuper. Il faut éduquer considérablement la nouvelle mère, l'encourager et, souvent, intervenir précocement, non seulement pour initier efficacement l'allaitement, mais aussi pour en prévenir les problèmes potentiels et pour favoriser que l'allaitement se poursuive avec succès pendant plusieurs mois. Les dispensateurs de soins bien informés sont les éléments clés leur permettant de promouvoir et de protéger la pratique de l'allaitement; cependant, au sein de la communauté, nombreuses sont les mères qui, faute d'appui de ces conseillers bien informés, cesseront précocement d'allaiter. Les médecins de famille sont bien placés pour venir en aide à la dyade impliquée dans l'allaitement. Cet article se penche sur le rôle que peuvent jouer les médecins de famille pour conseiller et aider les mères, et présente la ligne de conduite à adopter face aux difficultés les plus courantes de l'allaitement.

Key words: breastfeeding, preventing early termination of breastfeeding, managing breastfeeding difficulties

The number of Canadian mothers who initially breastfeed their babies is rapidly increasing. Unfortunately, the number of women who continue to breastfeed rapidly declines in the babies' early months, and mothers often introduce solids earlier than the recommended age of four to six months. In Canada the breastfeeding rate was 38% in 1963. The rate climbed dramatically to 75% in 1982, yet only 31% of these mothers were still breastfeeding their babies by six months of age.¹

In 1980, the Nutrition Committee of the Canadian Pediatric Society and the American Society of Pediatrics clearly outlined the benefits of breast-feeding and recommended that "full-term, newborn infants should be breastfed for the first six months. Human milk is the ideal food, and breastfed infants therefore have definite advantages over those who are bottlefed." The benefits to the infant of prolonged breastfeeding include optimal nutrition, increased immunological protection, fewer allergies, less eczema and positive psychological effects associated with bonding.²

Several studies have looked at the factors that influence the choice of feeding and the duration of breast-feeding. They showed that successful breastfeeding correlated with high motivation, education, family support, especially from husbands, the La Leche League and health-care professionals, and higher socio-economic status.³

The reasons given by mothers for early termination of breastfeeding often include abnormalities of the breast or nipples, perceptions of insufficient milk, unwillingness to continue, painful breasts or nipples, babies rejection of the breast, embarrassment and maternal or infant illness.⁴

A new mother who has never breastfed before needs considerable education, support and, often, early intervention in order to initiate breast-feeding successfully and to prevent the occurrence of breastfeeding problems. In the community many of these mothers lack the support of knowledgeable advisers on breast-feeding, and so they often terminate breastfeeding prematurely.

As the breastfeeding rate has increased, so has the incidence of breastfeeding difficulties. Family physicians are often asked to help and to give advice about breastfeeding problems when they, themselves, lack the appropriate knowledge. Medical school training ill equips physicians to handle the spectrum of problems that they now encounter, and so the ill-informed physician often gives misinformation and poor advice, and perpetuates the problems of already-frustrated mothers.

The article by Donelda Ellis which appeared in the March 1986 issue of *Canadian Family Physician* and which deals with the support of breastfeeding clearly outlines the basic physiology and mechanism of milk production and discusses the role that health professionals can play in helping to initiate successful breast-feeding.⁵

The family physician's first opportunity to discuss the subject of breast-feeding with a woman is often at the time of her first prenatal visit. At this time, or soon after, it is important for the physician to explore with the parents their values and beliefs about breastfeeding. Different cultures have different sets of rules relating to lactation, as they do about many other aspects of life and death. Cultural tradition dictates the initiation, frequency and termination of breastfeeding. Learning plays a key role in the lactation process, but the learning is focused on the beliefs, attitudes and values of the culture. Studies have shown that the women who are most successful at breastfeeding are those who decide to breastfeed before, or very early in, their pregnancies. Women who do not decide to breast-feed until the third trimester, or even until after the baby has been born, are often less successful at continuing breastfeeding. It is important, therefore, to discuss and encourage breast-feeding at an early stage of pregnancy.

The pre-Natal Examination

Although no one would assume that every woman can conceive and carry a pregnancy to term or deliver vaginally, the notion is still perpetuated that every woman can breastfeed. While the vast majority of women can nurse successfully, the pre-natal period should be used to screen for potential breastfeeding difficulties. A breast-feeding history should be obtained, previous lactation problems explored, and appropriate anticipatory guidance provided. Breast enlargement during pregnancy as a result of lobular alveola development suggests a good prognosis for successful lactation.

Nipple Preparation

There has been considerable discussion about the value of nipple preparation for breastfeeding, although the efficacy of such manoeuvres has not been proved. Some popular suggestions, such as harsh rubbing with a bath towel to toughen nipples, may actually damage nipple epithelium and Montgomery tubercles. The Montgomery tubercles produce lysosomes that play a role in infection control, produce oil that acts as a lubricant and provide an olfactory stimulus, and hence a locator, for the infant. The use of soap or topical preparations containing alcohol or other irritants can dry and crack nipples. Gentle breast massage and nipple rolling is recommended. The technique is to support the breast gently with fingers and, while grasping the nipple between the thumb and index finger, to roll the nipple gently between the thumb and index finger to encourage nipple erection. Another effective and pleasant method that is sometimes overlooked is oral and manual stimulation of the nipples by the woman's partner. The daily expression of a

few drops of colostrum during the last trimester may be helpful in promoting maternal comfort with the breasts, enhancing nipple elasticity, and teaching hand expression of milk.

In the pre-natal period it is important for the physician to examine the mother's nipples, looking particularly for inversion. This is done by compressing the nipple between the thumb and index fingers. When manipulated in this way, an inverted nipple retracts inwards towards the chest wall, and this retraction would make it difficult for the infant to grasp. True inverted nipples are rare and have an embryological cause. Severe nipple inversion can cause mechanical obstruction to milk flow whilst nursing. Nipples that are small or flat with only a slight inversion are much more common and easier to correct than true inverted nipples. The Hoffman technique is recommended as a way to help these nipples protrude. It is important to instruct the mother how to position her thumbs opposite each other on the areola and then gently stretch the nipple skin by drawing the thumbs further away from the base of the nipple, reposition her thumbs and repeat. This manoeuvre should be repeated dozens of times daily during the last trimester. In addition, breast shells may be worn over inverted nipples inside the bra. These shells provide gentle suction and slight pressure on the areola to draw out a flat or inverted nipple. The breast shell should be worn for increasing lengths of time beginning in the third trimester. Plastic or glass shells are preferable. Rubber shields pull on the skin and hold in the moisture. The shell should not be worn while sleeping because inappropriate pressure may damage the delicate breast tissue. The mother may wear the shell post partum for half an hour to one hour before feeding the baby. They are available at most drug stores or from the Medela company, Crystal Lake, Illinois.⁶

Support and Education

Breastfeeding performance is improved by specific knowledge and the support of "significant others". Therefore, differences in partners' views of feeding plans should be explored pre-partum, and misconceptions should be clarified. Some men worry that they will have to relinquish sexual breast activity while their partners lactate. Couples also worry about permanent breast changes following lactation; they should be informed that pregnancy itself causes marked breast changes whether or not lactation follows. I often recommend that parents read *The Womanly Art of Breastfeeding*⁷ or other such books in preparation for breastfeeding, as the more knowledge they have on the subject the more likely they are to succeed.

Post-Partum In-Hospital Stay

Interest has recently focused on hospital routines as they affect the establishment of lactation. Contemporary hospital practices, including operative deliveries, often delay reunion of the mother and baby after the birth. Prolonged confinement of the infant in the nursery, scheduled feedings, lack of 24-hour rooming, routine supplementation and the distribution of discharge gift packs containing formula, all interfere with unrestricted breastfeeding.

In an attempt to promote breast-feeding and to overcome problems that might discourage it, the World Health Organization (WHO) made some specific recommendations in its statement on "the international code of marketing of breast-milk substitutes".⁸ Several Canadian organizations, including Health and Welfare Canada, endorsed the code and made the following specific recommendations to hospital boards and administrations:⁹

- a) ensure that hospitalization procedures encourage the mother-infant bonding as soon as possible after delivery and encourage the early initiation of breastfeeding;
- b) ensure that practices involving the donation of free samples of infant formula do not discourage breastfeeding which, ideally, should continue until the baby is least four months old;
- c) permit parents to maintain maximum contact with their baby hospital; and
- d) provide special accommodation for the parents of premature infants in order to encourage as much as possible the development of parent-child bonding;

It is important that every physician involved in mother and infant care in the hospital follow this advice and act as patients' advocates in helping to bring about policy changes when necessary and in implementing all these recommendations.¹⁰

Ideally, in order to establish breast-feeding, the mother should have minimal anesthesia in labour so that the baby is as alert as possible at birth. Breastfeeding should be initiated soon after birth. This is because the baby is more alert, and the sucking reflex is strongest 20 to 30 minutes after birth. Early initiation of lactation has been clearly shown to influence subsequent success with lactation. Mothers should be encouraged to cuddle and hold their babies as much as possible, as well as to experiment with breastfeeding as early as possible, as this also helps to promote the bonding process.

Demand Feeding

Women have one of the most dilute milks of all species, and therefore infants should be expected to feed very often, but frequency varies between individuals and even changes in the same individual at different times during lactation. Some babies are fussy and demanding, and seem to have a small stomach capacity. They want to feed every one to two hours throughout the day and night. Other babies have a larger capacity and are more peaceful; they demand to be fed only five times a day. The only constant feature among babies is that none seem to be very hungry for the first few days. They may want to feed only two, three or four times a day, but from the third day onwards this pattern changes. If a baby is given the opportunity to feed on demand, it may want to feed as many as 10—20 times a day. There is nothing unusual about this. The mother must be encouraged to nurse her child on demand. As a child grows, the feeding pattern should become a compromise between the child's and the mother's needs. Every infant has periods of sudden rapid growth, and at these times it needs more food. These periods commonly occur at around three weeks, six weeks and three months of life. Mothers often experience a few days with a hungry, incessantly demanding baby until their milk production increases in response to increased sucking. Mothers need firm reassurance at this very difficult time that what they experience is normal, that they have not lost their milk, and that this building-up process will require only a few days of more frequent feeding.¹¹

Duration

The duration of each feed does not matter, probably, even in the first few days. The mother should be encouraged to nurse for at least five minutes to enable the baby not only to get the "fore-milk", but to drink the "hind-milk" too. During the hours between feeds, milk of a low-fat content passively diffuses across the alveola gland cells and into the ducts. This milk, which collects in the lactiferous sinuses, is often called "fore-milk". It looks like skim milk, and mothers who notice that their milk is very, watery can become concerned, thinking that they produce milk of low or poor quality. About one-third of the feed that a baby gets is made up of this fore-milk. Once the ejection and milk-producing reflexes are set in action, milk is actively secreted from the glands. This hind-milk contains a higher content of fat and protein and has the appearance of rich creamy milk. It is often thought that this hind-milk is the milk that satisfies babies and encourages good growth. This is an important point and should be explained to every mother to ensure that she allows sufficient time for the baby to drink the fore-milk and then obtain the hind-milk with its high fat and protein content. Most babies who suck correctly take 80% - 90% of their food from each breast within the first five minutes. Mothers experience several let-down reflexes at each feed, and some babies take 15 - 20 minutes to finish. If a baby sucks for more than 10 minutes, the mother should check its position and then let it continue. Very short feeds of one to two minutes may leave the breast engorged and the baby unsatisfied. Colostrum is thick and slowly secreted, and hence newborn babies may take a longer time to feed. Some babies are "barracuda, choker, swallowers" while others may be "nursers, pauser, sleeper, slurpers". A sleepy baby should be wakened up by burping or changing and then repositioned correctly on the nipple and fed again.

It is worth telling the mother that it takes a few days for the milk to "come in" and for lactation to become established. She must expect her breasts to feel empty for the first few days. It does *not* mean that she has no milk, nor does her baby require supplements. Most babies will get all the nourishment that they

need for these first few days in the colostrum. They are born with food and water stores which last until the milk comes. Frequent sucking is necessary to get the milk flowing and to establish lactation. Even if the mother thinks that there is nothing in her breasts, it is perfectly safe to allow the baby to suck eight to 10 times a day and even more frequently if the baby demands it.

Nursing Position

Women like to breastfeed in many positions, and there is no particular position that is better than any other. It is important, however, for the physician to check whether or not the mother is relaxed in her position. She/he should also check that the mother's position allows the breast to fall towards the baby. If the breast is pulling or falling away from the baby, it makes it difficult for the infant to grasp the nipple. The extra stretching of, and suction on, the nipple skin can damage the mother's skin and cause soreness. A proper nursing position is the key to success. It is important to make sure that the baby latches firmly onto the areola round the nipple, and that the baby's tongue is down.

If the baby is having difficulty latching on, or if the baby is a wriggler, the "football" hold may prove to be an effective nursing position. In this position, the baby is tucked under the mother's arm and the baby's head is held in the mother's palm while her forearm is used to support the baby. This enables the mother to control the baby's head more easily and guide the mouth onto the nipple and keep it there. Another trick that is helpful when a mother is having difficulty with "latching on", is to use a concentrated sugar-and-water solution, first encouraging the baby to suck on a sugary finger and then switching to a sugary nipple. Wriggling babies who tend to throw their arms around are managed better if they are snugly wrapped up and nursed in a quiet, dimly lit room where there is less distraction.

In the early weeks most mothers have to support the breast by placing their fingers underneath the breast and their thumb in opposition above. The mother must be careful not to distort the areola and should ensure that her fingers are away from the areolar. It is possible to open the baby's mouth and support the lower jaw with the fingers already supporting the underside of the breast. This technique encourages the baby to latch on to the areolar correctly. A poor nursing position results when the baby is allowed to nuzzle at the breast and work a way onto the nipple. If the baby is sucking on the tip, the result will be sore cracked nipples, poor milk production, and a hungry, fussy baby. The sore nipples are a result of the abrasive tongue action and of the lower gum pinching the nipple.¹²

Sore Nipples

Too much stress has been put on the risk of sore nipples if the baby sucks too long. Soreness usually occurs when a baby sucks in a wrong or poor position. The baby does not get enough milk and is not satisfied, and so continues to suck. Studies have shown that there is no significant correlation between frequency or duration of feeding and the degree of nipple soreness, and that nipple soreness decreases significantly over time, despite an increase in the frequency and duration of feedings.¹³

If a mother does get sore nipples, the following suggestions may be helpful:

- Ensure that correct breastfeeding techniques are being used.
- Keep the feedings short—seven to 10 minutes per side—and frequent. Frequent feedings prevent aggressive nursing and more soreness.
- Start by hand-expressing some milk to soften the areolar.
- Begin a feeding by uncovering both breasts, start the baby on the less sore side, switch the baby to the other side, and nurse from seven to 10 minutes; then switch back to the less sore side and finish the feeding.
- Experiment with different nursing positions. A mother may sit upright at one nursing and lie down on the following one, or she may cradle her baby in her arms for some of the feedings and use the football hold for others.

- Let the nipples air-dry before covering them, and avoid using soaps and alcohol on the nipples. Nipples do not need to be washed. The mother's use of good hand-washing techniques is all that is required.
- Sometimes, gently apply the breast- milk to dry nipples, and do not wash it off. The natural lanolin in the milk acts as a mild lubricant and barrier.
- Some women find that exposing their nipples to heat and light from a lamp is helpful.

Persistent sore nipples may be caused by a yeast infection. The physician should look inside the baby's mouth and ask the mother for any vaginal symptoms. The treatment for moniliasis includes oral nystatin 100,000 units t.i.d. to the infant and topical miconazole cream to the maternal nipples and areola before and after feeds for one week. Any maternal vaginal yeast should also be treated. Other causes of sore nipples include eczema and contact dermatitis. A mild hydrocortisone cream applied to nipples after a feed and washed off before feeds is helpful, and avoiding soap, detergent, nylon bras and other possible irritants, may solve the problem.

Anecdotal evidence has shown that liquid lethicin applied to nipples before feeds is a helpful lubricant and reduces pain. It is harmless to the baby.

Nipple shields should only be used as a last resort. They contribute to "nipple confusion" and reduce the rate of milk transfer. The thin latex shields are preferred, but are definitely not recommended.

Nipple Confusion

Mothers should be encouraged to wait until lactation is fully established before they offer an artificial nipple of any sort to the baby. By so doing they may avoid a problem, known as 'nipple confusion', sometimes seen in young infants. The technique of sucking on an artificial nipple is very different from that of sucking from the mother's nipple, and occasionally a confused infant appears unable to grasp a maternal nipple and effectively extract milk, but invariably feeds well out of a bottle. Nipple confusion can be minimized by avoiding exposure to bottle nipples unless a specific indication for supplementation exists. It may be necessary to write a specific order for, "no supplementation to be given to the baby without physician consent", while the mother is in hospital. All artificial nipples, including pacifiers, should be avoided in the early stages of breastfeeding. Once breastfeeding is established, a liberty bottle is often helpful. This means that the mother may once a day be relieved of her role as sole provider, and her partner may take on a more nurturing role by using a bottle of breast milk.

Engorgement

Some swelling or engorgement of the breasts is normal from the third to the seventh day after delivery. Primary engorgement results from venous and lymphatic congestion and not just a build up of milk. Many hospitals now have early discharge policies. Breastfeeding mothers go home before their milk supply is well established and thus before engorgement can develop. It is important, therefore, to teach breastfeeding mothers how to prevent engorgement and how to manage it if it occurs. To prevent engorgement, breastfeeding should begin as soon as possible after delivery and occur frequently. Secondly, the mother should wear a cotton bra with good support and stimulate breast circulation by applying moist heat to the breasts. This can be done by using a pamper or towel that has been dampened with warm water, or else by standing in the shower. The heat causes vasodilation and encourages drainage. The baby is the best breast pump, but a mechanical breast pump can also be used to empty each breast completely after feeds. If the engorgement causes the baby to have difficulty in latching on, it is possible to express some milk first and thereby soften the nipple and areola, making it easier for the baby to draw in the nipple.

Expressing Breast Milk

Family physicians should routinely ensure that all nursing mothers learn the art of expressing milk, either manually or with the aid of a breast pump. The technique is helpful when the mother experiences breast engorgement and also enables her to develop a milk bank which will allow someone else to feed the baby occasionally.

Applebaum¹⁴ has given a classic description of manually expressing milk. The key to success is waiting for the let-down reflex to start before attempting to express milk. There are a variety of manual breast pumps on the market. In my experience the most efficient manual pumps are the syringe-shaped pumps.

Milk Stasis and Mastitis

Many nursing mothers experience episodes of tenderness and inflammation in their breasts. These can be caused by milk stasis, non-infectious inflammation or infectious mastitis. Clinically it may be difficult to differentiate between these conditions. Up to 10% of lactating women will experience mastitis or breast infection during the course of breastfeeding. This condition is often preceded by clogged ducts or unrelieved engorgement. In addition to causing discomfort, mastitis can lead to the formation of abscesses that require surgical draining. Symptoms of mastitis include a flu-like syndrome of generalized malaise, aches and fever, with focal pain and erythema in the affected breast. Observation of these symptoms has given rise to the adage "Flu in the breastfeeding mother is mastitis until proven otherwise." Although mastitis is usually diagnosed clinically, infection can be distinguished from an inflammatory non-infectious process or clogged duct by microscopic examination and culture of the milk.

A leucocyte count of $<10^6$ /ml of milk and $<10^3$ bacterial/ml of milk is likely to be associated with milk stasis, the symptoms of which are of short duration and self-limiting. A mother should be instructed to start nursing on the affected side and to massage the lumpy area during nursing. A leucocyte count of $>10^6$ /ml of milk and $<10^3$ bacteria/ml of milk is likely to be associated with non-infectious inflammation, which carries a risk of progressing to an infectious mastitis unless the breast is adequately and frequently emptied. A leucocyte count $>10^6$ /ml of milk and $>10^3$ bacteria/ml of milk is likely to be caused by infectious mastitis and will lead to breast-abscess formation unless appropriate systemic antibiotics, based on susceptibility tests, are started. The breast must be adequately and frequently emptied. There is no need to discontinue breastfeeding.¹⁵

If frank pus can be expressed from the nipple, the breast must be massaged to express all the pus. This may have to be done under a field block. All abscesses should be incised and drained. This can be done as an office procedure and a penrose drain inserted. The mother must continue to express pus on a regular basis. The mother can continue nursing on the unaffected breast, but should express milk from the infected side.

Breast infections can be divided into a cellulitis and adenitis. Cellulitis is an infection of the interlobular connective tissue associated with cracked nipples which may be the portal of entry for low-virulent strains of staphylococcus aureus or other non-pathogens from the mother or infant. Since the site of infection is extra-ductular, it is safe for the baby to continue to nurse.

Adenitis or intraductular infections are often caused by a highly virulent strain of staphylococcus aureus and should be treated with a penicillinase-resistant penicillin for seven to 10 days.¹⁶

Mothers should be instructed to feel their breasts routinely and, if any area feels particularly firm, lumpy or tender, to undo the bra completely, start nursing on that side, and gently massage the breast tissue towards the nipple during nursing. It may be that she should nurse in a different position, particularly with the baby in the football position, as this encourages more efficient emptying of the blocked duct.

Insufficient Milk

Many new mothers imagine that they are producing insufficient milk. This notion is often fuelled by grandmothers who have experienced the same phenomenon, and reinforced by hungry, fussy babies, anxious to suck on anything.

Mothers are probably correct in interpreting the behaviour of their fussy infants as indicating hunger, but they are incorrect in assuming that this suggests that something is “wrong” with their milk production. Bottle feeding may indeed satisfy the sucking desire and quiet the baby, confirming the mothers’ diagnosis. Reduction of suckling at the breast, however, results in lower milk production, and the mother’s anxiety can inhibit or curtail milk production. Lactation failure is often based on an improper interaction between mother and infant. In order for a mother to make sufficient milk, she must have adequate suckling stimuli at frequent intervals; her let-down reflex, which is under the control of oxytocin, must be intact; and her breasts must produce milk, which is controlled by prolactin release. In order to grow, the infant must be able to suckle correctly at frequent intervals, must not be affected by any physical factors that impair feeding, nor be subject to malabsorption or increased metabolic requirements.¹⁷

The American Academy of Pediatrics Committee on Nutrition has concluded that “given adequate instruction, emotional support, and favourable circumstances, 96% of new mothers can breastfeed successfully.”¹⁸

Failure to Thrive

Young infants who are thriving generally gain an ounce a day. Although there is no clear-cut definition of failure to thrive in breastfed infants, the following points may provide clues to identifying inadequate weight gain:¹⁹

- failure to regain birth weight by three weeks of age;
- weight loss of greater than 10% of birth weight by two weeks of age;
- continuing loss of weight after 10 days of life;
- deceleration of growth from a previously established pattern of weight gain;
- evidence of malnutrition, such as minimal subcutaneous fat or wasted buttocks.

The etiologies of lactation failure, leading to failure to thrive, can be broadly divided into maternal factors and infant factors. When a baby fails to thrive, the physician should take a careful maternal and infant history followed by a physical examination.

The maternal history must include questions about the mother’s motivation for breastfeeding, as well as her knowledge and past experience. A mother who has successfully nursed other children is unlikely to have a significant primary lactation failure, and her infant’s failure to thrive is more likely to be the result of an infant problem. The physician should discuss the mother’s typical nursing routine, including duration and frequency, as these factors are important to ensure adequate suckling stimuli.

Mothers may feel a “tingling” sensation in the breasts, followed by some leakage of milk and rapid swallowing by the infant, indicating strong let-down reflex. Lack of a strong let-down may deprive infants of the high-fat-containing hind-milk. A history of sore or cracked nipples, anxiety or stress may be the cause of a poor letdown.

It is possible that unrelieved engorgement or poor breast emptying leads to stasis of milk within the alveoli and to ultimate atrophy of the mammary epithelium.

The infant history should include a description of the character of the infant: is the baby demanding and vigorous or sleepy and placid? Frequent wet diapers or stools indicate a good fluid intake. The prenatal history may reveal clues such as prematurity, low Apgar scores or other medical problems in the infant.

The objective assessment must include examining the maternal breasts and nipples for tenderness, fullness, and obvious abnormalities such as inverted nipples. The infant should have a complete physical examination including the mouth and tongue; the strength and co-ordination of the suck can be assessed by an examining finger.

Observing the mother nursing the infant is an important part of the examination. This allows the doctor to assess the baby at the nipple, to watch the rhythm of the sucking and swallowing pattern, and to ensure a good and effective nursing position.

The treatment of failure to thrive is to provide an adequate caloric intake for the infant. This may require supplementation initially, but it does not necessitate discontinuing breastfeeding if the mother is well motivated to continue. If the problem is caused by insufficient suckling, the baby must be allowed to suckle the nipple every two to three hours for an unlimited time, using both breasts at each feed before supplementation is given. In addition, the night feed should be continued. A galactagogue such as metoclopramide 10 mg. t.i.d. may be helpful.

If the baby is not thriving because of an impaired let-down reflex, the mother should be encouraged to rest and relax. The physician should explain what is happening and treat her sore nipples. An oxytocin nasal spray may be tried.

Supplementation

If supplementation is required, it should not be given by bottle, as many infants become accustomed to the easy flow of milk through the rubber nipple and turn away from the breast. There are useful feeding bottles now on the market, such as the Supplemental Nursing System (SNS)⁶ which consists of a small plastic bottle suspended around the mother's neck, with a fine feeding tube that can be placed close to the nipple. The suckling infant obtains the supplemental milk through the feeding tube, but continues to stimulate the nipple simultaneously, and thus increases maternal milk supply. This system allows a baby to be weaned back to the breast and eliminates the need to bottle feed. Newman, in his article on the problem of "not enough milk" describes a useful improvised lactaid.²⁰

The infant's growth must be monitored carefully, but test weighings before and after feedings are notoriously inaccurate and are not recommended.

Contraindications of Nursing

Breastfeeding should be discouraged if the mother has a debilitating illness that makes her too weak to nurse. Such illnesses include systemic diseases such as lupus erythematosus, neuromuscular diseases such as myasthenia gravis, neoplastic diseases and severe metabolic disease such as renal failure.

Certain kinds of illness are contraindication for breastfeeding, particularly infectious diseases that pose a threat to the infant, such as sputum positive tuberculosis and AIDS.²¹ The reader should refer to a larger text for specific recommendations on the precautions to be taken when a mother has an infectious illness such as herpes, cytomegalovirus or hepatitis.²² If a mother is HBsAg positive, but does not have HBeAg or other markers of heightened infectivity nor any herpes lesions directly on the nipples, she can continue to breastfeed, provided that she takes care to cover active lesions and follow a strict hand-washing routine. The newborn infant should receive high titre HBV immunoglobulin 0.5ml/kg immediately, followed by 0.5ml/kg at one month.

Drugs and Lactation

Most ingested drugs appear in milk, and the physician should always be on the alert for evidence of this situation. A useful question to ask is "Should nursing mothers be medicated?" rather than "Should medicated mothers be nursing?" Drug addicts and drug abusers should not breastfeed. The use of antimetabolites, radioactive drugs, iodides, ergot alkaloids, metronidazole, propylthiouracil, diazepam,

chlorpromazine, lithium, chloramphenicol and tetracycline provides an absolute contraindication for breastfeeding.

Drug excretion into milk depends on the drug's degree of ionization, molecular weight, solubility in fat and water, and the relation of PH of plasma (7.4) to PH of milk (7.0). In general, drugs are bound much less to milk proteins than to plasma proteins, and drug levels in milk usually do not exceed 1% of the ingested dosage. The reader should refer to other reference material regarding the untoward effects of the drugs on the infant.²³

Jaundice

Jaundice in the newborn is an old chestnut with a new shell. It can be categorized as physiologic hyperbilirubinemia in the full-term infant, early-onset and late-onset breastfeeding jaundice. There is evidence to suggest that excessive jaundice in the neonate is associated with infrequency of feedings and inadequate caloric intake in the first week of life. Late-onset breastfeeding jaundice was initially attributed to the inhibition of gluconyl-transferase by 3- α , 20-B-pregnanediol, which was found in the milk of mothers of affected infants. It is currently thought that there is an abnormal lipase activity in the milk that contributes to the jaundice.²⁴ The treatment of jaundice includes increasing breastfeeds to every two to three hours and discouraging supplementation. In late-onset breast-milk jaundice, it is helpful to stop breastfeeding for 48 hours if the indirect bilirubin reaches about 15—16 mg/dl. This is done as a diagnostic manoeuvre: if the jaundice is caused by an abnormality in the mother's milk, the infant's bilirubin level should fall significantly. A mother can resume nursing if this occurs, as kernicterus has never been reported in infants with breastfeeding jaundice.

Breastfeeding and Work

Despite the popularity and known benefits of breastfeeding, most women do not continue breastfeeding once they return to work. Family physicians are in a key position to counsel mothers about the possibility of combining work with breastfeeding and should encourage them to try.²⁵

When a mother decides to return to work, she should continue to breastfeed whenever she is at home and leave bottle feeding to the child-care giver. The quantity of milk produced rapidly decreases to meet the reduced requirement. With planning and a supportive environment, a mother can often express milk before leaving for work and when she returns. This breast milk can be given to the baby during her absence. She may find that she is more comfortable if she expresses her milk at work during her lunch break.

Physicians should spend time discussing difficulties that may exist for nursing mothers in the work force, such as lack of support from other employees or unsympathetic employers. Often there is minimal disruption to other workers and probably little adverse effect on her productivity. The mother's biggest problem is that of the "role overload" associated with simultaneous parenting, homemaking and employment, and she may need more support and understanding over this than over any other issue.

Weaning

Weaning can begin whenever a mother wishes, but she should be reminded of the recommendation that breast milk is the ideal food, and as long as her baby is gaining weight satisfactorily, supplementation is unnecessary. At about six months of age the baby's iron stores are depleted, and either iron-fortified cereal should be introduced, or else iron supplements should be started.²

Ideally, mothers should slowly drop the frequency of breastfeeding and introduce a cup at this time. Cows milk should not be given before the baby is nine to 10 months old because it is known to be allergenic to many infants.² If a mother weans gradually, she should not experience any problems.

There are many more breastfeeding issues that arise, and it is beyond the scope of this article to discuss them all. There are several useful textbooks and articles written for physicians on managing breastfeeding problems.

Conclusions

Knowledgeable health-care providers are the key to promoting and protecting breastfeeding. It is important to appreciate the unique opportunity of family physicians to help their breast-feeding patients. They can play a pivotal role in helping to increase the prevalence and duration of breastfeeding among mothers. Not only should they advocate breastfeeding, but they must also be supportive and knowledgeable, help women plan and prepare for breastfeeding, help to initiate breastfeeding post partum, and be able to manage problems. They must also act as mediators between specialists and the nursing dyad. In this way family physicians can influence and encourage women to extend the duration of breastfeeding, delay the introduction of alternative feeding, and thus prevent early termination of breastfeeding and promote successful breastfeeding in their communities.

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