

Food Allergies And Intolerances

THE IMPORTANCE OF BREASTFEEDING

Breastfeeding is an important event in the lives of both mother and child. It is a time of bonding and spending quality time together. Mommy's breast milk is also the best nutritional food for the newborn infant. According to the 'Pediatric Nutrition Handbook', human milk is recommended as the exclusive nutrient source for feeding full-term infants during the first 6 months after birth and should be continued through the first 12 months.

mother's milk will help the child develop a strong immune system, bone system, and nervous system, as well as prevent digestive disorders and nutrient deficiencies. It can give protection from infection, prevent allergies, decrease incidences of diarrhea, decrease infant mortality, decrease infant obesity, and decrease dental caries. All of these factors relate to lower health care costs and healthier, happier babies. To suggest that breastfeeding can solve all of the difficulties of postpartum transition would be naive. But breastfeeding provides so many benefits, it is important not to take them lightly. In children, there are many diseases that stem from lack of nutrition, and there are many negative behavior and health patterns that result from poor food and nutrition intake. Many of these issues can be helped and prevented with the use of mother's milk during the early months. Therefore, it is important to give these benefits enough weight when balancing the pros and cons and deciding whether or not to breastfeed, especially in tough and challenging situations.

It is important to promote breastfeeding and support longer duration of breastfeeding, which will provide benefits for both the mother and child. In the United States, national efforts to promote breastfeeding have initiated increasing rates. However, only a few number infants are being breastfed beyond 1 to 2 months of age and many of the potential benefits are still being forfeited.

The goal is to promote breastfeeding, stress the importance of sustained exclusive breastfeeding for 4 to 6 months, and encourage breastfeeding with weaning foods for 12 months. Being fed on mother's milk is so important, because there are indisputable psychological, nutritional, immunological, and economical benefits.

TRENDS PAST AND PRESENT

In the early part of this century, breastfeeding for a sustained duration was the norm. However, after World War II, baby formulas that replaced mother's milk hit the market and were highly commercialized. For the next 40 years, formula feeding became extremely popular and a lot more people began to choose human milk substitutes.

In the later part of this century, it is surely encouraging to see that the trend for breastfeeding is again on the rise. In the first edition of 'Healthy People', published in 1979, the United States Surgeon General's Report stated that breastfeeding is to be encouraged. In follow-up editions, specific goals for initiation and duration rates were also identified and backed up by pamphlets, documentaries, books, journals, and reports. Due to these promotional tools, the United States of America has experienced resurgence in breastfeeding rates.

This trend of increasing rates is the direct result of the accumulation of literature documenting the advantages and benefits of breastfeeding. There is recognition from numerous professional societies and support from federal promotions for breastfeeding as the preferred form of infant nutrition.

These forces have contributed to the increase in breastfeeding initiation from a low of about 20% in the early 1970's to a high of 60% in 1984. Although there was a decline in breastfeeding rates in the late 1980's, the most recent data indicates that overall initiation rates are increasing again, with the figure at 59.7% in 1995.

The highest incidence of breastfeeding continues to be among women who are college educated, older than 30 years of age, and in higher income groups. However, some of the greatest recent increases have been seen in those groups with the lowest breastfeeding rates. This includes women who are lower educated, employed full-time, less than 20 years of age, ethnic minorities, have annual incomes less than \$10,000, and those participating in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).

Despite these encouraging trends, there is still a decline in breastfeeding rates after the first 1 to 2 months. And only approximately 20% of all infants are being breastfed at 5 to 6 months of age. Therefore, potential benefits are at a risk of being lost, because there are greater advantages with sustained breastfeeding for at least 4 months. Promotion efforts must focus on support of longer duration of breastfeeding and good clinical management. The United States Surgeon Generals' goal of the year 2000 is a 75% initiation of breastfeeding and 50% duration for 6 months or more.

BARRIERS TO HINDER BREASTFEEDING

There are many barriers that hinder successful initiation and duration of breastfeeding. They include poorly trained health professionals that do not know how to provide useful information and successful intervention, changes in healthcare policies, economic issues, pressures from the commercial sector, and socio-cultural factors. These obstacles must be tackled in order to uphold and expand the growing trend of using mother's milk instead of commercial infant formulas.

First of all, many health care professionals have inadequate training about breastfeeding. Traditional dietetics and nursing training programs have not incorporated extensive training in lactation support.

Therefore, the consequences of insufficient training are inappropriate management of lactation and a clinical bias toward the use of milk substitutes when problems with breastfeeding arise. Because so many people look to health care professionals for advice, it is especially damaging when they cannot recognize problems or offer interventions that support breastfeeding. It is the responsibility of all people who work in the medical field to have proper knowledge regarding this important issue.

Secondly, there are recent rapid changes in health care policies. This includes shorter postpartum hospital stays that further limit the professional support and education about lactation available to new mothers. The Baby Friendly Hospitals initiative has helped provide at-home visits to mothers during the newborn period. Although the visits can help compensate for the shorter hospital stays, they are often performed by personnel without adequate training in the assessment and management of lactation.

Thirdly, economic issues can hinder successful breastfeeding. Important tools, such as rental of an electric pump, purchase of necessary equipment, and lactation counseling are frequently not reimbursed by third-party payers. Due to these immediate cost issues, new mothers without dispensable cash are more inclined to 'give-up' when problems arise during feeding. These economic pressures can easily break the mother-infant pair.

Women who are not properly educated about the benefits of breastfeeding often do not see the whole economic picture. Quitting breastfeeding early can sometimes result in more money spent later on for healthcare for the infant. Sick children cost a lot of money in hospitalization, doctor visits, medication and special care.

Also, formula feeding means an expense of \$500-\$1000 more per year, which is a conservative estimate. Also, the effect of the commercial sector on breastfeeding cannot be overlooked. Aggressive marketing practices and use of products associated with shorter duration of breastfeeding promote the use of human milk substitutes. Marketing these products in disposable packages, easy-to-use containers, beautiful designs, pretty colors helps promote the idea that formula feeding is more wonderful and more convenient than breastfeeding. And because the American society depends heavily on the media for ideas and information, the commercial sector plays an important role in the decision making process.

Free formula samples and formula company literatures are not gifts. There is only one purpose for these "gifts", and that is to get new mothers to use formula. It is

very effective, yet very unethical, marketing. Therefore, if health professionals are giving these things to new mothers, their knowledge of breastfeeding and commitment to breastfeeding need to be evaluated. Some mothers say, "But I need formula because the baby is not getting enough!". Perhaps it is true, but more likely, the mother did not get good help, and the baby is simply not getting enough milk. Therefore, get good help because formula samples are not help.

Lastly, numerous socio-cultural factors can hinder successful breastfeeding. In our society today, breastfeeding is simply not accepted as the cultural norm. This is true particularly within some demographic groups and within certain demographic areas. Society's attitudes on infant feeding can greatly affect the mother's decision not to breastfeed.

In addition, the decline in breastfeeding 20 to 30 years ago has resulted in a loss of traditional knowledge and support. Today's grandmothers often have no firsthand breastfeeding experience. Demographic changes in childbirth and child rearing, such as the increasing numbers of teenaged and single mothers and more reliance on child care outside the home, are also associated with challenges to successful sustained breastfeeding.

Another powerful force mitigating sustained breastfeeding is women's relatively short-term maternity leave and the difficulty of maintaining a good milk supply with prolonged separation from the infant. Supportive work environments, where mothers can either have the infant present, have access to on-site or nearby child care, or at least have time and facilities for pumping and storing milk are, as yet, relatively uncommon.

Thus, a socio-cultural shift is needed to make meaningful progress toward substantially longer breastfeeding for the majority of infants in the United States. The new paradigm will need to include more than statements from agencies, institutions, and individuals that breastfeeding is to be encouraged.

Also, a true expectation from the health care system and socio-cultural system must be present. It needs to be made known that breastfeeding an infant for a period of 6 to 12 months is not only optimal but is the norm. This should be socially accepted and supported. The use of human milk substitutes should be reserved only for a minority of infants or mothers with specific indications, such as mothers with breast cancer, women receiving chemotherapy, and those infected with HIV, AIDS, and other infectious diseases. Also, infants with metabolic disorders and other special needs may require a specific formula.

BENEFITS OF BREASTFEEDING

The advantages of breastfeeding, especially for a time period greater than 4

months, have indisputable benefits. They include psychological benefits, nutritional benefits, immunological benefits, maternal health benefits, infant health benefits, reduced infant morbidity, and economical benefits.

BENEFITS OF BREASTFEEDING - Psychological Benefits

According to extensive research, mother's milk most definitely benefits psychological development and should be utilized for the normal growth and mental maturation of the child. The unique fatty acid composition of human milk plays an important role in neuro-psychological development of the child. Low-birth-weight infants fed mother's milk scored better on developmental tests at age 18 months and intelligence tests at age 7 or 8 years than infants who received human milk substitutes.

Similarly, significant increases in cognitive development test scores were identified in school-aged children. Nursing strengthens the emotional and physical bond mothers have with their babies. There is a psychological and physiological interdependence between mother and child. The nature of breastfeeding, which is to create a successful relationship through the demand and supply of human milk, helps to establish this bond. Breastfeeding requires that mothers are present to care for their babies and to have frequent close contact. This will show baby how much love and attention he/she deserves, and the time spent with baby will never be wasted.

BENEFITS OF BREASTFEEDING - Nutritional Benefits

Human milk provides optimal nutrition to infants. Its dynamic composition and the appropriate balance of nutrients makes it easily digestible and in bioavailable form. The relatively low protein content of breast milk is adequate, but not excessive. Therefore, it presents a relatively modest nitrogen load to the immature kidney. The form of protein in human milk, mainly whey, forms a soft and easily digestible curd.

Human milk provides generous amounts of essential fatty acids, saturated fatty acids, medium-chain triglycerides, and cholesterol. Long-chain polyunsaturated fatty acids, especially docosahexaenoic acid, promote optimal growth and development of the central nervous system.

Human milk has a relatively low sodium content, allowing the fluid requirements of the exclusively breastfed infant to be met while keeping the renal solute load low. Minerals in breast milk are mainly protein-bound and balanced to enhance bioavailability. This mineral composition allows provision of iron, zinc, and calcium to meet infant needs with minimal demand on maternal supply.

BENEFITS OF BREASTFEEDING - Immunological Benefits

Human milk contains many components that help to strengthen the immune

system and provide protection for the body. Cellular components, including specific T-lymphocytes and B-lymphocytes, nonspecific macrophages, and neutrophils are especially high in colostrum and are present in human milk at lower concentrations. They are in activated forms for months, supplying immunological benefit.

Humoral factors, which include immunoglobulins (with secretory immunoglobulin A being predominant), play a critical role in providing local protection to the gastrointestinal tract. This helps protect the infant from digestive disorders and diseases of the gastrointestinal tract. Other soluble factors include lactoferrin and vitamin B12. These binding proteins attach to iron and vitamin B12 and make them unavailable to pathogens that require such nutrients to prosper in the infant's gastrointestinal tract. These factors are critical to maintain a striking difference in the intestinal flora of breastfed versus formula-fed infants.

Hormones and hormone-like substances, including insulin and epidermal growth factor, enhance maturation of the infant gastrointestinal tract. These and numerous other factors in human milk directly and indirectly provide active and passive protection to infants, especially neonates. These critical properties help fight against viral and bacterial microorganisms. Because of the delicate balance between nutritional and immunological factors, maximum protection is offered when breastfeeding is performed exclusively for a prolonged duration.

BENEFITS OF BREASTFEEDING - Reduced Infant Morbidity

In studies performed in both developing and industrial countries, breastfed infants have been reported to have fivefold fewer gastrointestinal illnesses, threefold fewer respiratory illnesses, and at least half the episodes of otitis media. These numbers alone provide good reasons why mothers should seriously consider breastfeeding, because it means healthier babies.

Carefully designed and controlled studies have established results of reduced morbidity among breastfed infants in both developing and industrial countries. Sustained breastfeeding reduces infant morbidity and various allergies even in affluent populations. The reductions extend beyond the weaning period. For instance, the risk of otitis media is reduced for the duration of breastfeeding and for months after weaning. The protection against atopic diseases extends for many years. These results are very positive and should be utilized to encourage mothers to breastfeed.

BENEFITS OF BREASTFEEDING - Maternal Health Benefits

Mothers receive many health benefits from the extended duration of breastfeeding. When lactating, women experience amenorrhea (stoppage of menses). Exclusive and more frequent nursing increases the duration.

Lactation amenorrhea accompanied with exclusive breastfeeding reduces the risk of pregnancy for at least 6 months. This allows the mother to rest and recuperate, and this gives her time for the female reproductive and endocrine systems to become normalized and strengthened before another pregnancy. Lactation is also associated with reductions in the risk for premenopausal breast cancer. These risks decrease further if the first lactation is at a younger age and if the lactation period lasts for 6 months or more. Another benefit of breastfeeding is that women with gestational diabetes have a more optimal blood glucose profile. This is important to balance the blood sugar levels in the body, which can prevent certain diseases. Finally, breastfeeding can assist in maternal weight and fat loss. To lose weight after pregnancy is tough and many mothers are concerned about this. It is a relief to know that nursing can be beneficial to weight loss after childbirth.

Mothers can reap many benefits from breastfeeding. However, it is still necessary to observe dietary intake, nutritional status, lifestyle, proper care, and physical activity to ensure the best results. It is important to take on an active role in the body's total health and wellness.

BENEFITS OF BREASTFEEDING - Economic Benefits

Breastfeeding is a cost-effective and economically beneficial health practice. There is no question about it. Perhaps the strongest evidence to date is available from a Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) and the Medicaid program. Statistically, it shows that there is a tremendous amount of savings from breastfeeding compared to the cost of formula feeding. Also, there is lower Medicaid pharmacy costs during the first 6 months in breastfed infants compared to formula-fed infants.

From an economic standpoint, a common misconception has been that developing countries would not be able to realize the economic benefits of breastfeeding. The reason is that the risks of artificial feeding were substantially greater due to more marginalized conditions. However, recent studies have convincingly demonstrated benefits on infant morbidity even in industrial countries. Cost projections from the differences in morbidity mean savings of millions of dollars in medical costs for physician visits, antibiotics, and hospitalizations.

Extensive research documents that there are also higher costs for both employers and employed mothers if the baby was not breastfed. Mothers have to be absent from work more often due to infant illness, which often means less pay and less job security. In addition, there are more medical expenses for hospitalization, doctor's visits, medication and special care. On the other hand, employers have to find temporary help and when temps are unavailable, the job simply does not get done. Thus, both parties suffer economic losses.

From an economic standpoint, it is certainly puzzling to see why more women do not utilize such a great benefit. Breastfeeding is a recognized, statistically reported and research documented method to save money. In addition to the cost benefits, it means healthier and happy babies, which is something every mother hopes for.

CLINICAL CONSIDERATIONS - Lactation Management

It is very important for health care professional to be properly trained to assist in appropriate intervention and to educate new mothers. Many postpartum lactation problems are iatrogenic, or resulting from the activity of physicians. Therefore changes must be made in routine care for mothers and newborns. Such changes are outlined in the Baby Friendly Hospital Initiative. Early mother-infant contact increases the duration of breastfeeding by as much as 50%, and nursing should be allowed immediately after delivery when possible. The early postpartum period is a critical time for education and assistance, in order to ensure appropriate positioning to avoid breast soreness and engorgement.

Although primary lactation failure is exceedingly rare, insufficient milk is a frequent cause of early lactation cessation. It is critical that health care professionals recognize signs and symptoms of insufficient milk, such as infant lethargy, irritability, jaundice, infrequent defecating, infrequent urinating, failure to gain weight, or excessive weight loss (greater than 7% of birth weight).

Early recognition and intervention can help to prevent lactation difficulties that lead to insufficient milk supply and early lactation cessation.

During the first 2 to 3 months of life, breastfed infants typically gain weight more rapidly than the median on standard growth charts. Thus, poor weight gain during this period should be interpreted as evidence of potential lactation problems. This is when appropriate assessment and intervention should be undertaken.

Weight gain of breastfed infants after 4 months is generally slower than indicated in standard growth charts, therefore, the assessment of breastfeeding adequacy is more difficult at this age. Growth deviation during this time should not be misinterpreted as an indication for weaning. This time period requires assessment for potential problems such as adequacy of the lactation process, and appropriate use of weaning foods. Interim growth charts specific to breastfed infants are available and may be helpful in the assessment.

CLINICAL CONSIDERATIONS - Women with Special Needs

Medical advances have made pregnancy and positive fetal outcome possible for women with many chronic diseases, including insulin-dependent diabetes mellitus, systemic lupus erythematosus, and hypothyroidism. Increasingly, women with chronic

diseases also wish to nurse their infants, but correct procedures and possible consequences must be made known to these mothers. Guidelines are available regarding the advisability of breastfeeding in women with infectious diseases.

Breastfeeding by women with hepatitis C remains highly controversial because the risk of viral transmission through breast milk is certainly possible. Nursing is not recommended for infants of women in the United States who test positive for human immunodeficiency virus, or HIV. Women with viral infections should seriously consider the risks to the baby when deciding to breastfeed.

Women with insulin-dependent diabetes mellitus can nurse successfully, but they require additional support to manage increased energy needs and changing blood sugar levels. Having appropriate knowledge and utilizing proper medical care will help these women maintain metabolic control and enhance lactogenesis.

Certain experts believe that lactation is appropriate for women with systemic lupus erythematosus, hypertension, Crohns' disease, and many other chronic diseases if proper care and medical treatment are utilized. However, many of these women will be utilizing drug medications in order to breastfeed their children. And there are certainly many drugs that may be damaging to lactation and the infant child.

Resources are available to assist in evaluating the safety of drug use in lactation. The few classes of drugs that contraindicate breastfeeding include radioactive isotopes, chemotherapy drugs, lithium, ergotamine, lactation-suppressing drugs, and 'street' drugs. Contamination of breast milk by environmental pollutants is a concern when mothers have had specific exposure to heavy metals or insecticides. In situations where maternal exposure and probability of transfer in breast milk lipids are determined to be significant, analysis of milk is recommended with decisions regarding safety made from the estimated average intake.

CLINICAL CONSIDERATIONS - Infants with Special Needs

The advantages of breastfeeding and use of human milk are particularly important for infants with special needs. One of the most common and yet challenging situations is that of infants born prematurely. The unique nutritional qualities of human milk, including the protein/amino acid and lipid composition, offer advantages with respect to digestibility and feeding tolerance, maturation of the gastrointestinal tract, and neurological development.

For premature infants that weigh less than 2000 grams, the relatively high requirements for certain nutrients, including protein, calcium, phosphorus, and zinc are generally not met unless the human milk is fortified.

Fortification of mother's milk remains an issue of considerable interest and high

controversy. Human milk has also been successfully and advantageously used for infants with cleft palate, inborn errors of metabolism (especially phenylketonuria), cystic fibrosis (with pancreatic enzyme replacement), and Down's syndrome. In each of these situations, the major challenge remains the achieving and maintaining an adequate milk supply by mother.

Infants with a family history of allergic disease are also likely to benefit from extended breastfeeding. This will minimize early exposure and entry of foreign proteins into the gastrointestinal tract. It is a known fact that mother's milk provides immunological benefits for the newborn infant. In addition, secretory immunoglobulin A, found in human milk will serve as latter protection as well.

As soon as special needs of an infant are presented, care providers and health care professionals should provide anticipatory support for both mother and child. Medical personnel must be attentive and alert to early signs or symptoms of feeding difficulties. Only then can effective early intervention be instated.

ROLES AND RESPONSIBILITIES

All health care professionals have a responsibility to support breastfeeding through active lactation management and necessary intervention. ADA, the International Lactation Consultant Association, La Leche League International, Nursing Mothers' Counsel, and local breastfeeding task forces are avenues for professional and volunteer efforts to promote and support breastfeeding.

Prenatal lactation education and counseling are also viable practice options for dietetic professionals. Dietetic practitioners in prenatal clinics, obstetrics practices, and Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) clinics have a responsibility to educate women before a decision is reached about feeding method.

Furthermore, critical review of undergraduate and graduate training programs in dietetics is recommended. Curriculums are available for various levels of expertise and application. They may be useful in developing standards of education, which will ensure training to strengthen the understanding of dietetic professionals on lactation management.

Hundreds of dietitians have been trained as certified lactation educators over the past decade. With this advanced training in lactation support and management, dietitians can be educators of physicians and other health care professionals. They can also become key care providers, particularly in pediatric and family practice settings.

Dietetics practitioners can also play a role in research on issues such as cost-effectiveness and mother-infant nutritional requirements related to breastfeeding. Further research is needed to understand and then to eliminate barriers to successful

breastfeeding. Special attention should be placed on women and infants with special needs and those with specific cultural influences.

Cultural changes will help eliminate barriers to lactation. In several states, legislation has been enacted to preserve a woman's right to nurse her infant in public. Further efforts to support change in policies include longer maternal leave, third-party reimbursement for nursing equipment and lactation consultation, and family-friendly employers. Factors such as on-site day care facilities at work, nursing/pumping rooms, breastfeeding support personnel, and lactation consultants will help support lactation duration.

Professional, volunteer, educational, and research efforts must be aimed at breaking the barriers to the initiation and continuation of breastfeeding. Clinical findings on the benefits of human milk must be recognized, and appropriate lactation support and management techniques should be incorporated into clinical protocols. Sociocultural structures and practices that foster successful sustained breastfeeding should also be realized and actively supported.

Breastfeeding is the natural, physiologic way of feeding infants and young children. Mother's milk is produced specifically for human infants. Formulas that are made from cow's milk and other replacement sources are only superficially similar. Breastfeeding should be easy and trouble free for most mothers. A good start helps to assure breastfeeding is a happy experience for both mother and baby.

The vast majority of mothers are perfectly capable of breastfeeding their babies exclusively for four to six months, and even up to twelve months. In fact, most mothers produce more than enough milk. Unfortunately, outdated hospital routines based on bottle-feeding still predominate in many health care institutions and make breastfeeding difficult, even impossible, for some mothers and babies. For breastfeeding to be well and properly established, a good early few days can be crucial. Admittedly, even with a terrible start, many mothers and babies manage.

Therefore, promotional efforts need to continue to support the initiation and sustained duration of breastfeeding. The establishment of breastfeeding for at least 6 months, but optimally for at least one year, should be cultural norm. This should be supported by medical, social, and economic practices as a fundamental cornerstone of true promotion of health and wellness.