AMERICAN ACADEMY OF PEDIATRICS

Work Group on Breastfeeding

Breastfeeding and the Use of Human Milk

ABSTRACT. This policy statement on breastfeeding replaces the previous policy statement of the American Academy of Pediatrics, reflecting the considerable advances that have occurred in recent years in the scientific knowledge of the benefits of breastfeeding, in the mechanisms underlying these benefits, and in the practice of breastfeeding. This document summarizes the benefits of breastfeeding to the infant, the mother, and the nation, and sets forth principles to guide the pediatrician and other health care providers in the initiation and maintenance of breastfeeding. The policy statement also delineates the various ways in which pediatricians can promote, protect, and support breastfeeding, not only in their individual practices but also in the hospital, medical school, community, and nation.

ABBREVIATION. AAP, American Academy of Pediatrics.

HISTORY AND INTRODUCTION

From its inception, the American Academy of Pediatrics (AAP) has been a staunch advocate of breastfeeding as the optimal form of nutrition for infants. One of the earliest AAP publications was a 1948 manual, *Standards and Recommendations for the Hospital Care of Newborn Infants*. This manual included a recommendation to make every effort to have every mother nurse her full-term infant. A major concern of the AAP has been the development of guidelines for proper nutrition for infants and children. The activities, statements, and recommendations of the AAP have continuously promoted breastfeeding of infants as the foundation of good feeding practices.

THE NEED

Extensive research, especially in recent years, documents diverse and compelling advantages to infants, mothers, families, and society from breastfeeding and the use of human milk for infant feeding. These include health, nutritional, immunologic, developmental, psychological, social, economic, and environmental benefits.

Human milk is uniquely superior for infant feeding and is species-specific; all substitute feeding options differ markedly from it. The breastfed infant is the reference or normative model against which all alternative feeding methods must be measured with regard to growth, health, development, and all other short- and long-term outcomes.

The recommendations in this statement do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

Epidemiologic research shows that human milk and breastfeeding of infants provide advantages with regard to general health, growth, and development, while significantly decreasing risk for a large number of acute and chronic diseases. Research in the United States, Canada, Europe, and other ***developed*** countries, among predominantly middle-class populations, provides strong evidence that human milk feeding decreases the incidence and/or severity of diarrhea,[1–5] lower respiratory infection,[6–9] otitis media,[3,10–14] bacteremia,[15,16] bacterial meningitis,[15,17] botulism,[18] urinary tract infection,[19] and necrotizing enterocolitis.[20,21] There are a number of studies that show a possible protective effect of human milk feeding against sudden infant death syndrome,[22–24] insulin-dependent diabetes mellitus,[25–27] Crohn's disease,[28,29] ulcerative colitis,[29] lymphoma,[30,31] allergic diseases,[32–34] and other chronic digestive diseases.[35–37] Breastfeeding has also been related to possible enhancement of cognitive development.[38,39]

There are also a number of studies that indicate possible health benefits for mothers. It has long been acknowledged that breastfeeding increases levels of oxytocin, resulting in less postpartum bleeding and more rapid uterine involution.[40] Lactational amenorrhea causes less menstrual blood loss over the months after delivery. Recent research demonstrates that lactating women have an earlier return to prepregnant weight,[41] delayed resumption of ovulation with increased child spacing,[42–44] improved bone remineralization postpartum[45] with reduction in hip fractures in the postmenopausal period,[46] and reduced risk of ovarian cancer[47] and premenopausal breast cancer.[48]

In addition to individual health benefits, breastfeeding provides significant social and economic benefits to the nation, including reduced health care costs and reduced employee absenteeism for care attributable to child illness. The significantly lower incidence of illness in the breastfed infant allows the parents more time for attention to siblings and other family duties and reduces parental absence from work and lost income. The direct economic benefits to the family are also significant. It has been estimated that the 1993 cost of purchasing infant formula for the first year after birth was $855. During the first 6 weeks of lactation, maternal caloric intake is no greater for the breastfeeding mother than for the nonlactating mother.[49,50] After that period, food and fluid intakes are greater, but the cost of this increased caloric intake is about half the cost of purchasing formula. Thus, a saving of >$400 per child

for food purchases can be expected during the first year.[51,52]

Despite the demonstrated benefits of breastfeeding, there are some situations in which breastfeeding is not in the best interest of the infant. These include the infant with galactosemia,[53,54] the infant whose mother uses illegal drugs,[55] the infant whose mother has untreated active tuberculosis, and the infant in the United States whose mother has been infected with the human immunodeficiency virus.[56,57] In countries with populations at increased risk for other infectious diseases and nutritional deficiencies resulting in infant death, the mortality risks associated with not breastfeeding may outweigh the possible risks of acquiring human immunodeficiency virus infection.[58] Although most prescribed and over-the-counter medications are safe for the breastfed infant, there are a few medications that mothers may need to take that may make it necessary to interrupt breastfeeding temporarily. These include radioactive isotopes, antimetabolites, cancer chemotherapy agents, and a small number of other medications. Excellent books and tables of drugs that are safe or contraindicated in breastfeeding are available to the physician for reference, including a publication from the AAP.[55]

THE PROBLEM

Increasing the rates of breastfeeding initiation and duration is a national health objective and one of the goals of Healthy People 2000. The target is to "increase to at least 75% the proportion of mothers who breastfeed their babies in the early postpartum period and to at least 50% the proportion who continue breastfeeding until their babies are 5 to 6 months old."[59] Although breastfeeding rates have increased slightly since 1990, the percentage of women currently electing to breastfeed their babies is still lower than levels reported in the mid-1980s and is far below the Healthy People 2000 goal. In 1995, 59.4% of women in the United States were breastfeeding either exclusively or in combination with formula feeding at the time of hospital discharge; only 21.6% of mothers were nursing at 6 months, and many of these were supplementing with formula.[60]

The highest rates of breastfeeding are observed among higher-income, college-educated women >30 years of age living in the Mountain and Pacific regions of the United States.[60] Obstacles to the initiation and continuation of breastfeeding include physician apathy and misinformation,[61–63] insufficient prenatal breastfeeding education,[64] disruptive hospital policies,[65] inappropriate interruption of breastfeeding,[62] early hospital discharge in some populations,[66] lack of timely routine follow-up care and postpartum home health visits,[67] maternal employment[68,69] (especially in the absence of workplace facilities and support for breastfeeding),[70] lack of broad societal support,[71] media portrayal of bottle-feeding as normative,[72] and commercial promotion of infant formula through distribution of hospital discharge packs, coupons for free or discounted formula, and television and general magazine advertising.[73,74]

The AAP identifies breastfeeding as the ideal method of feeding and nurturing infants and recognizes breastfeeding as primary in achieving optimal infant and child health, growth, and development. The AAP emphasizes the essential role of the pediatrician in promoting, protecting, and supporting breastfeeding and recommends the following breastfeeding policies.

RECOMMENDED BREASTFEEDING PRACTICES

1. Human milk is the preferred feeding for all infants, including premature and sick newborns, with rare exceptions.[75–77] The ultimate decision on feeding of the infant is the mother's. Pediatricians should provide parents with complete, current information on the benefits and methods of breastfeeding to ensure that the feeding decision is a fully informed one. When direct breastfeeding is not possible, expressed human milk, fortified when necessary for the premature infant, should be provided.[78,79] Before advising against breastfeeding or recommending premature weaning, the practitioner should weigh thoughtfully the benefits of breastfeeding against the risks of not receiving human milk.
2. Breastfeeding should begin as soon as possible after birth, usually within the first hour.[80–82] Except under special circumstances, the newborn infant should remain with the mother throughout the recovery period.[80,83,84] Procedures that may interfere with breastfeeding or traumatize the infant should be avoided or minimized.
3. Newborns should be nursed whenever they show signs of hunger, such as increased alertness or activity, mouthing, or rooting.[85] Crying is a ***late*** indicator of hunger.[86] Newborns should be nursed approximately 8 to 12 times every 24 hours until satiety, usually 10 to 15 minutes on each breast.[87,88] In the early weeks after birth, nondemanding babies should be aroused to feed if 4 hours have elapsed since the last nursing.[89,90] Appropriate initiation of breastfeeding is facilitated by continuous rooming-in.[91] Formal evaluation of breastfeeding performance should be undertaken by trained observers and fully documented in the record during the first 24 to 48 hours after delivery and again at the early follow-up visit, which should occur 48 to 72 hours after discharge. Maternal recording of the time of each breastfeeding and its duration, as well as voidings and stoolings during the early days of breastfeeding in the hospital and at home, greatly facilitates the evaluation process.
4. No supplements (water, glucose water, formula, and so forth) should be given to breastfeeding newborns unless a medical indication exists.[92–95] With sound breastfeeding knowledge and practices, supplements rarely are needed. Supplements and pacifiers should be avoided whenever possible and, if used at all, only after breastfeeding is well established.[93–98]
5. When discharged <48 hours after delivery, all breastfeeding mothers and their newborns should be seen by a pediatrician or other knowledgeable health care practitioner when the newborn is 2 to 4 days of age. In addition to determination of

infant weight and general health assessment, breastfeeding should be observed and evaluated for evidence of successful breastfeeding behavior. The infant should be assessed for jaundice, adequate hydration, and age-appropriate elimination patterns (at least six urinations per day and three to four stools per day) by 5 to 7 days of age. All newborns should be seen by 1 month of age.[99]

6. Exclusive breastfeeding is ideal nutrition and sufficient to support optimal growth and development for approximately the first 6 months after birth.[100] Infants weaned before 12 months of age should not receive cow's milk feedings but should receive iron-fortified infant formula.[101] Gradual introduction of iron-enriched solid foods in the second half of the first year should complement the breast milk diet.[102,103] It is recommended that breastfeeding continue for at least 12 months, and thereafter for as long as mutually desired.[104]
7. In the first 6 months, water, juice, and other foods are generally unnecessary for breastfed infants.[105,106] Vitamin D and iron may need to be given before 6 months of age in selected groups of infants (vitamin D for infants whose mothers are vitamin D-deficient or those infants not exposed to adequate sunlight; iron for those who have low iron stores or anemia).[107–109] Fluoride should not be administered to infants during the first 6 months after birth, whether they are breast- or formula-fed. During the period from 6 months to 3 years of age, breastfed infants (and formula-fed infants) require fluoride supplementation only if the water supply is severely deficient in fluoride (<0.3 ppm).[110]
8. Should hospitalization of the breastfeeding mother or infant be necessary, every effort should be made to maintain breastfeeding, preferably directly, or by pumping the breasts and feeding expressed breast milk, if necessary.

ROLE OF PEDIATRICIANS IN PROMOTING AND PROTECTING BREASTFEEDING

To provide an optimal environment for breastfeeding, pediatricians should follow these recommendations:

1. Promote and support breastfeeding enthusiastically. In consideration of the extensive published evidence for improved outcomes in breastfed infants and their mothers, a strong position on behalf of breastfeeding is justified.
2. Become knowledgeable and skilled in both the physiology and the clinical management of breastfeeding.
3. Work collaboratively with the obstetric community to ensure that women receive adequate information throughout the perinatal period to make a fully informed decision about infant feeding. Pediatricians should also use opportunities to provide age-appropriate breastfeeding education to children and adults.
4. Promote hospital policies and procedures that facilitate breastfeeding. Electric breast pumps and private lactation areas should be available to all breastfeeding mothers in the hospital, both on ambulatory and inpatient services. Pediatricians are encouraged to work actively toward eliminating hospital practices that discourage breastfeeding (eg, infant formula discharge packs and separation of mother and infant).
5. Become familiar with local breastfeeding resources (eg, Special Supplemental Nutrition Program for Women, Infants, and Children clinics, lactation educators and consultants, lay support groups, and breast pump rental stations) so that patients can be referred appropriately.[111] When specialized breastfeeding services are used, pediatricians need to clarify for patients their essential role as the infant's primary medical care taker. Effective communication among the various counselors who advise breastfeeding women is essential.
6. Encourage routine insurance coverage for necessary breastfeeding services and supplies, including breast pump rental and the time required by pediatricians and other licensed health care professionals to assess and manage breastfeeding.
7. Promote breastfeeding as a normal part of daily life, and encourage family and societal support for breastfeeding.
8. Develop and maintain effective communications and collaboration with other health care providers to ensure optimal breastfeeding education, support, and counsel for mother and infant.
9. Advise mothers to return to their physician for a thorough breast examination when breastfeeding is terminated.
10. Promote breastfeeding education as a routine component of medical school and residency education.
11. Encourage the media to portray breastfeeding as positive and the norm.
12. Encourage employers to provide appropriate facilities and adequate time in the workplace for breast-pumping.

CONCLUSION

Although economic, cultural, and political pressures often confound decisions about infant feeding, the AAP firmly adheres to the position that breastfeeding ensures the best possible health as well as the best developmental and psychosocial outcomes for the infant. Enthusiastic support and involvement of pediatricians in the promotion and practice of breastfeeding is essential to the achievement of optimal infant and child health, growth, and development.

Work Group on Breastfeeding, 1996 to 1997
Lawrence M. Gartner, MD, Chairperson
Linda Sue Black, MD
Antoinette P. Eaton, MD
Ruth A. Lawrence, MD
Audrey J. Naylor, MD, DrPH
Marianne E. Neifert, MD
Donna O'Hare, MD
Richard J. Schanler, MD

Liaison Representatives
Michael Georgieff, MD
Committee on Nutrition
Yvette Piovanetti, MD
Committee on Community Health Services
John Queenan, MD
American College of Obstetricians and Gynecologists

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