SUPPLEMENT ARTICLE

Characteristics of Breastfeeding Practices Among US Mothers

Katherine R. Shealy, MPH, IBCLC, RLC[a], Kelley S. Scanlon, PhD, RD[a], Judith Labiner-Wolfe, PhD[b], Sara B. Fein, PhD[b], Laurence M. Grummer-Strawn, PhD[a]

[a]Division of Nutrition, Physical Activity, and Obesity, Centers for Disease Control and Prevention, Atlanta, Georgia; [b]Center for Food Safety and Applied Nutrition, Food and Drug Administration, College Park, Maryland

The authors have indicated they have no financial relationships relevant to this article to disclose.

ABSTRACT

OBJECTIVES. Although much has been published about breastfeeding rates, little is known about how breastfeeding is practiced in the United States. We describe the distributions and characteristics of practices related to common advice about breastfeeding during the infant's first year of life.

PARTICIPANTS AND METHODS. Participants in the 2005–2007 Infant Feeding Practices Study II received monthly questionnaires during their infants' first year of life. Among breastfeeding respondents, we investigated patterns and trends in types of breastfeeding (supplementing with formula or not, and at the breast or not) and maternal report of infant feeding behaviors corresponding to common breastfeeding advice on frequency, duration, and intervals of feedings.

RESULTS. More than half of the breastfeeding mothers fed their infants nothing other than breast milk until 4 months of age. Formula supplementation declined from 42% at 1 month to 15% at 1 year; adding other foods/liquids increasingly surpassed supplementing with formula beginning at 5 months of age. Six percent of the mothers reported that the only breast milk the infant was fed was expressed, rather than at the breast. Frequency of breast milk feedings per day declined from 8 at 1 month to 3.5 at 1 year. Reported feeding durations of <20 minutes increased from 46% at 1 month to 88% at 1 year. Feeding from both breasts per feeding decreased 15% over the infant's first year (from 69% to 59%). Longest interfeeding intervals more than doubled over the year.

CONCLUSIONS. Exclusive breastfeeding was common up to 4 but not to 6 months of age. Breastfeeding with only expressed milk was rare. Considerable variation existed in maternal report of practices that correspond to common breastfeeding advice. More research is needed to better understand how these variations relate to breastfeeding outcomes and the role of common breastfeeding advice in infant feeding decisions. *Pediatrics* 2008;122:S50–S55

www.pediatrics.org/cgi/doi/10.1542/peds.2008-1315f

doi:10.1542/peds.2008-1315f

The findings and conclusions in this article are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the Food and Drug Administration.

Key Words
breastfeeding, breast milk, feeding behavior, human milk, lactation, medical education, mothers, patient education, supplementary feeding

Abbreviations
AAP—American Academy of Pediatrics
IFPS—Infant Feeding Practices Study

Accepted for publication Jun 4, 2008

Address correspondence to Katherine R. Shealy, MPH, IBCLC, RLC, Centers for Disease Control and Prevention, Division of Nutrition, Physical Activity, and Obesity, 4770 Buford Hwy NE, Mail Stop K25, Atlanta, GA 30341. E-mail: kshealy@cdc.gov

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275); published in the public domain by the American Academy of Pediatrics

THE AMERICAN ACADEMY of Pediatrics (AAP) identifies pediatricians in particular, and health professionals overall, as important advocates to "enthusiastically"[1] encourage breastfeeding and to gain and maintain knowledge and skills related to management of breastfeeding.[1] However, few pathways exist for health professionals to learn about breastfeeding practices. Breastfeeding is not a core element of most medical training.[2,3] Breastfeeding information in medical texts is often incomplete, inconsistent, and inaccurate.[4] Although the AAP and other health professional organizations publish numerous books and other resources on breastfeeding for both professional and lay audiences[5–9] and professional support is an evidence-based strategy for improving breastfeeding outcomes,[10] no standard guidelines specifically suggest what kinds of information are components of ideal professional support. In addition, health professionals vary widely in both their attitudes about their role in breastfeeding promotion and support and their practices.[11]

Mothers receive infant feeding information and advice from a variety of sources.[12] Although mothers tend to adhere to advice from health professionals and the resources they provide, they are not likely to ask for help from health professionals when faced with challenges in doing so.[13] The AAP's formal position on breastfeeding recommends exclusive breastfeeding for the first 6 months with continued breastfeeding past 12 months,[1] but the role of "exclusive pumping"[14,15] (providing expressed milk without ever feeding the infant at the breast) in breastfeeding guidance has not been explored yet. Other advice mothers receive has common themes including "infants should feed 8–12 times in 24 hours,"[1,5,16] "infants should breastfeed for 10–15 minutes on each breast at each feeding,"[16] and

Downloaded from by guest on August 31, 2016

"after the first few weeks, infants should feed less frequently and sleep through the night."[17] Often, the intended time frame for the advice and the characteristics of transitions over time are not stated explicitly.

The physiological processes of human lactation contradict narrowly prescriptive characterizations of frequency, duration, management, and intervals of breastfeeding,[18–21] and practices that vary from the advice may still be within the range of biological variation. Although the main themes of common informal breastfeeding advice appear in a wide range of settings, little is known about the actual distribution of the behaviors that correspond to this advice.

The specific objectives of this study were twofold: (1) to identify the prevalence of 2 types of breastfeeding (supplementing with infant formula or not and at the breast or not) and (2) to describe rates and trends, over infants' first year, of several aspects of breastfeeding practices related to common breastfeeding advice.

PARTICIPANTS AND METHODS

We used data from the Infant Feeding Practices Study II (IFPS II), a longitudinal mail survey that surveyed mothers from pregnancy through their infant's first birthday. Data were collected from 2005 through 2007. The sample was drawn from a national consumer opinion panel and included adult mothers (≥18 years of age) of healthy singleton infants born at between 35 and 45 weeks' gestation. Mothers were sent questionnaires monthly throughout their infant's first year of life. The research was approved by the US Food and Drug Administration Research Involving Human Subjects Committee. Details of the study methodology and overall sample characteristics are described elsewhere in this supplement.[22] For this study, we performed all analyses only among the subset of IFPS II respondents who initiated breastfeeding, as determined by a response on the first postnatal questionnaire indicating that the infant received any breast milk in the previous 7 days (n = 2587). We analyzed data by using SAS 9.1.3 software (SAS Institute, Inc, Cary, NC).

We investigated and described 2 variations of breastfeeding: (1) supplementing with infant formula or not and (2) at the breast or not (also known as exclusive pumping).[14,15] We created 3 categories to examine supplementation: (1) exclusive breastfeeding (the infant consumes only breast milk and no other foods or liquids); (2) breastfeeding without infant formula (the infant consumes breast milk and other foods and liquids but not infant formula); and (3) breastfeeding with infant formula (the infant consumes breast milk and infant formula and perhaps other foods and liquids). We examined 4 questionnaire items corresponding to topics of common anticipatory breastfeeding advice: (1) "In the past 7 days, how often was your infant fed [breast milk]?"; (2) "In an average 24-hour period, what is the longest time for you, the mother, between breastfeedings or expressing milk?"; (3) "About how long does an average breastfeeding last?"; and (4) "Does your infant usually feed from both breasts at each feeding?" The response categories for the questionnaire item about feeding from both or 1 breast at each feeding (known as paired or unpaired feedings[23]) were "yes," "no," and "infant was only fed pumped milk." Our analysis of paired feedings was only among those who responded "yes" or "no," whereas the mothers who responded "infant is only fed pumped milk" provided information about the prevalence of exclusive pumping. We included in these descriptive analyses mothers with complete data on each pertinent questionnaire item. Sample sizes for the descriptive analyses varied according to the questionnaire items and behaviors analyzed (range: 449–1466 women).

Although some components of the IFPS II questionnaires were repeated in each iteration, the exact content and structure of each postnatal IFPS II questionnaire was created to gather specific kinds of information by being sent at specific intervals across the first year of infancy.[22] However, variations in how mothers timed the return of completed questionnaires meant that in some cases the questionnaire month no longer corresponded directly to the infants' age at the time the questionnaire was completed. Using the procedures of Grummer-Strawn et al,[24] we converted data from questionnaire month to the actual infant age in weeks at the time when each questionnaire was completed, using the following infant age categories: 3 to <7 weeks, 7 to <11 weeks, 11 to <15 weeks, 15 to <19 weeks, 19 to <24 weeks, 24 to <29 weeks, 29 to <36 weeks, 36 to <43 weeks, 43 to <51 weeks, and 51 to <60 weeks. To simplify reporting and displaying results, we then collapsed the age groups back into ranges that approximated the timing of when mothers received the IFPS II questionnaires according to infant age, corresponding to 1, 2, 3, 4, 5, 6, 7, 9, 10, and 12 months of age.

RESULTS

Throughout the year, supplementing breastfeeding with infant formula was less common than breastfeeding without infant formula regardless of other foods or liquids consumed (Fig 1). For the first 3 months, exclusive breastfeeding was the most prevalent type of breastfeeding; more mothers reported exclusive breastfeeding at 3 months than any other time point. After 3 months, exclusive breastfeeding declined steeply. Slightly more than one third of the breastfeeding mothers supplemented with infant formula from 3 to 7 months. By 5 months, the prevalence of breastfeeding without infant formula but with other foods or liquids surpassed that of supplementing with infant formula and continued to increase throughout the rest of the year.

Among all mothers who were breastfeeding during the IFPS II, exclusive pumping was reported by 5.6% of the mothers, which means that their infants never fed directly at the breast. Breastfeeding durations among this group were short. Only one third of exclusively pumping mothers had durations of any breastfeeding beyond 1 month (data not shown).

In the first 2 months, median frequency of breast milk feedings reported by the mothers was ~8 feedings per 24 hours (Fig 2). The rate of decline in frequency of breast milk feedings per day was gradual throughout the year.

Downloaded from by guest on August 31, 2016

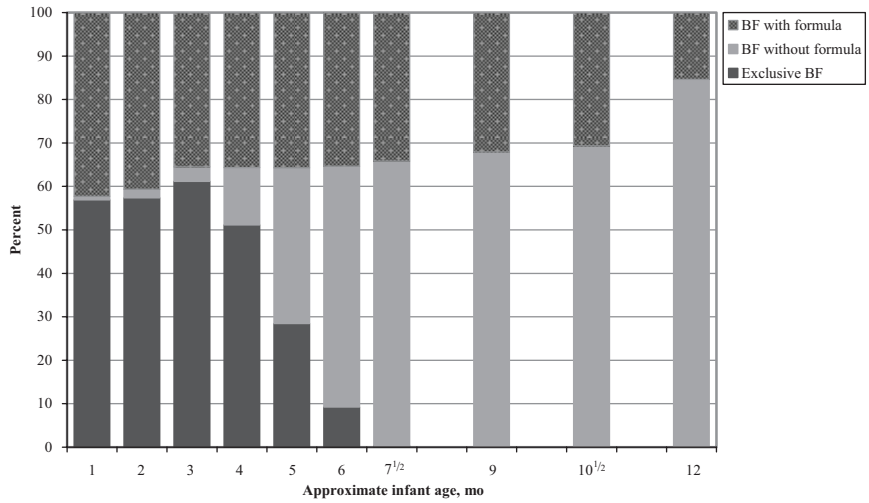

FIGURE 1
Prevalence of feeding type among all breastfeeding mothers according to infant age (among mothers at each time point who indicated that their infants received any breast milk in the previous 7 days). Sample sizes were as follows: month 1, $n = 1452$; month 2, $n = 1466$; month 3, $n = 1405$; month 4, $n = 1202$; month 5, $n = 1167$; month 6, $n = 1026$; month 7, $n = 895$; month 9, $n = 798$; month 10, $n = 649$; and month 12, $n = 462$ mothers. BF with formula indicates that the infant consumes breast milk, other foods and liquids, and infant formula; BF without formula the infant consumes breast milk and other foods and liquids but not infant formula; exclusive BF the infant consumes only breast milk and absolutely no other foods or liquids.

Median frequency of feedings per 24 hours dropped approximately bimonthly. At 1 year, the mothers' median reported feeding frequency was 3.5 feedings per 24 hours.

The longest interval between breastfeeding occasions more than doubled over the questionnaire period (Fig 3). Paired t tests comparing the mean longest reported feeding intervals according to breastfeeding type at each infant age indicated that (1) differences among the mothers who did and did not supplement breastfeeding with infant formula were statistically significant at $P < .005$ for every time point except at 12 months and (2) differences among mothers who did and did not practice exclusive breastfeeding were significant at $P < .005$ for the first 5 months.

Over the questionnaire time frame, the average reported length of individual breastfeeding sessions decreased (Fig 4). In the first month, approximately half of the respondents estimated that feedings typically lasted for <20 minutes. The prevalence of feedings of this duration increased throughout the year. At 1 year, almost all the mothers estimated feeding durations of <20 minutes. Short feedings (<10 minutes) were rare in the first month. However, at 1 year, 40% reported average feedings of <10 minutes. Feedings that lasted ≥40 minutes were rare across all infant age categories.

Among the mothers who breastfed at the breast, most reported feedings were typically paired, rather than unpaired, meaning the infant typically fed from both breasts at each feeding across all months (range: 68.8%–58.8%). We also compared the rates of consistent unpaired feedings, defined as mother reported unpaired feedings for each month in which data were available, to rates of unpaired feedings in any given month (regardless of responses in other months' data). Although the mothers increasingly reported unpaired feedings with increased infant age, consistent unpaired feedings were less common and accounted for 17.5% of the mothers who fed at the breast (data not shown).

DISCUSSION

Exclusive breastfeeding peaked at 3 months, and for the first 4 months, exclusive breastfeeding was more common than breastfeeding along with any others foods or liquids, including infant formula. The prevalence of supplementing breastfeeding with infant formula decreased throughout the first year. The prevalence of exclusive pumping dropped sharply after just the first month.

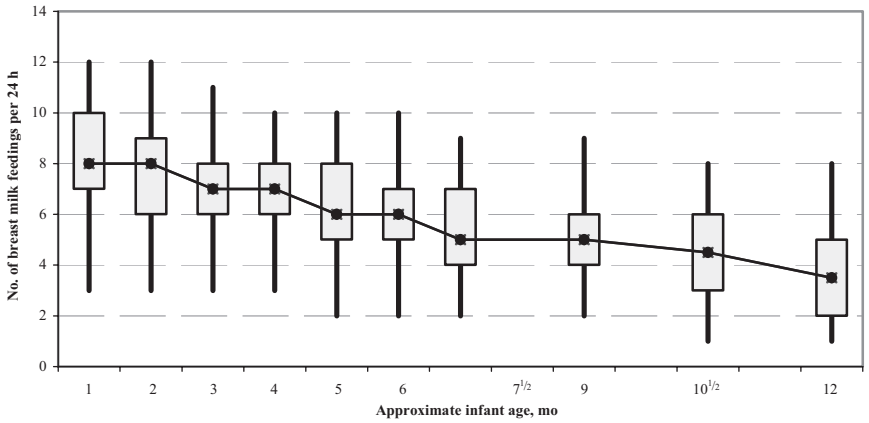

FIGURE 2
Median, interquartile, and 95th percentile ranges of frequency of breast milk feedings (includes feedings at the breast and feedings of expressed milk) per 24 hours according to infant age (among mothers indicating number of breast milk feedings per day [and per week, converted in analyses to feedings per day] in response to the questionnaire item, "In the past 7 days, how often was your infant fed each food listed below? Include feedings by everyone who feeds the infant and include snacks and night-time feedings.")

Sample sizes were as follows: month 1, $n = 1407$; month 2, $n = 1432$; month 3, $n = 1395$; month 4, $n = 1191$; month 5, $n = 1155$; month 6, $n = 1018$; month 7, $n = 900$; month 9, $n = 789$; month 10, $n = 649$; and month 12, $n = 456$ mothers.

Downloaded from by guest on August 31, 2016

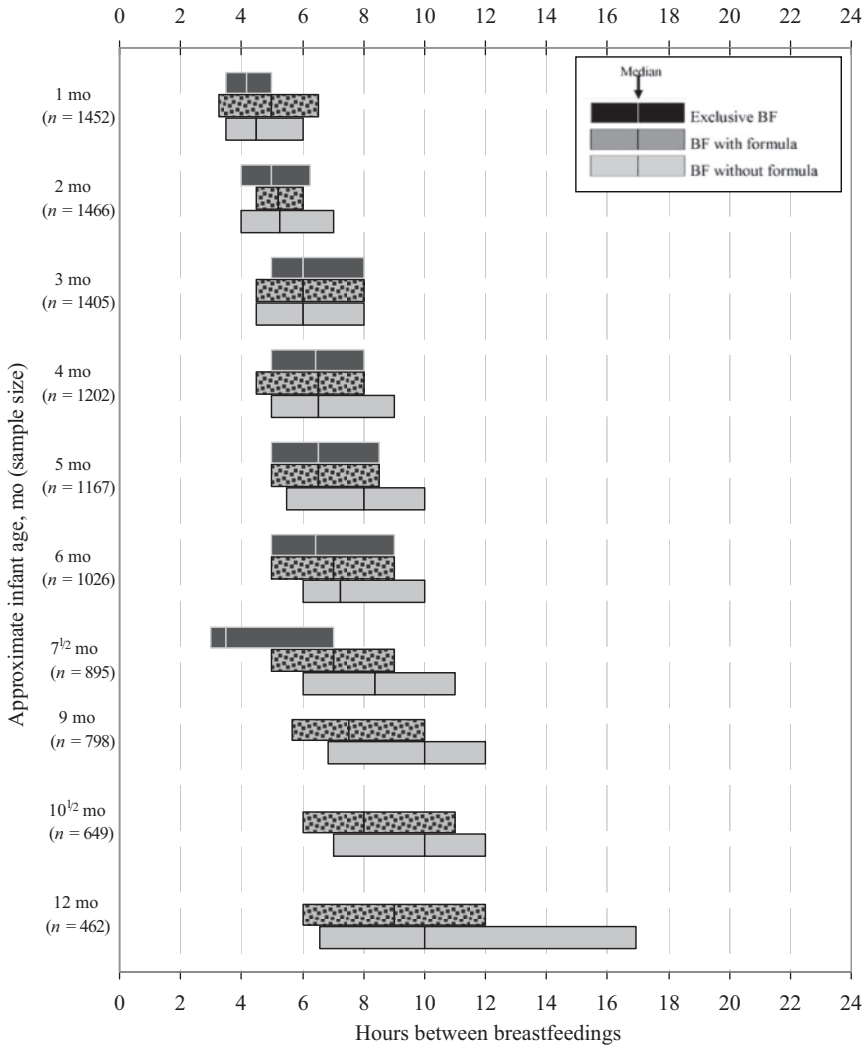

FIGURE 3
Interquartile ranges of longest interfeeding intervals (as indicated by responses to the questionnaire item, "In an average 24-hour period, what is the longest time for you, the mother, between breastfeedings or expressing milk?") according to breastfeeding type and infant age. Exclusive BF indicates that the infant consumes only breast milk and absolutely no other foods or liquids; BF with formula, the infant consumes breast milk, other foods and liquids, and infant formula; BF without formula, the infant consumes breast milk and other foods and liquids but not infant formula.

In the early postpartum period, nearly half of the mothers surveyed fed their infants breast milk fewer than 8 times a day, which is below the range typically included in common advice of 8 to 12 feedings per day.[1,5,16] By 3 months postpartum, three quarters of the mothers fed breast milk less frequently than is commonly advised. In contrast to common advice to feed 10 to 15 minutes each side per feeding (20–30 minutes cumulatively), 1 in 5 of the mothers reported that feedings during the neonatal period were longer than this, and almost half reported that feeding durations were <10 minutes. As the infants aged, an even greater percentage of mothers breastfed for <20 minutes. Despite statements anticipating that infants will no longer wake

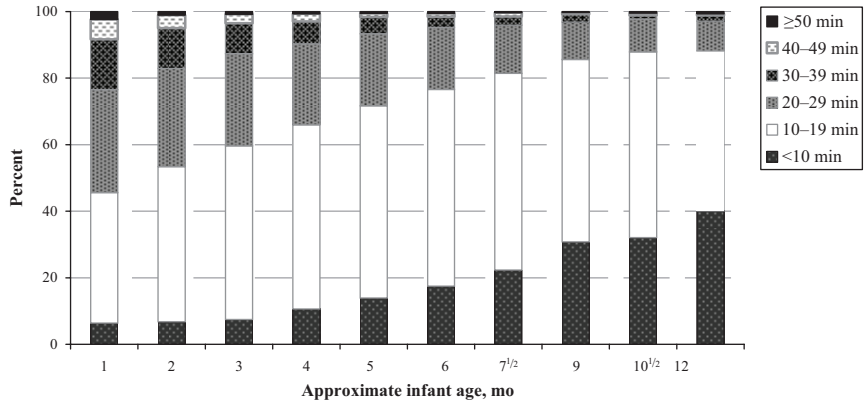

FIGURE 4
Average length of individual breastfeedings (as indicated by responses to the questionnaire item, "About how long does an average breastfeeding last?") according to infant age.

Sample sizes were as follows: month 1, $n = 1345$; month 2, $n = 1361$; month 3, $n = 1336$; month 4, $n = 1138$; month 5, $n = 1108$; month 6, $n = 983$; month 7, $n = 882$; month 9, $n = 766$; month 10, $n = 629$; and month 12, $n = 449$ mothers.

Downloaded from by guest on August 31, 2016

to feed at night after the first several weeks but instead will sleep through,[18] at 2 months approximately half of the infants in our study were fed within 6 hours of the previous feedings. Even at 1 year, one quarter of them still did not go more than 6 hours between feedings.

Parents place great trust in and seek out the expertise of health professionals on issues related to infant feeding[25]; however, they may not always receive the kind of information they need. The physiology of human lactation is extremely complex, but effective lactation is not determined by the frequency, duration, intervals, and pairing of feedings.[21,26,27] Instead, it is influenced by interactions among 4 major elements: (1) characteristics of how mother's body makes and stores milk that vary by time of day[26]; (2) how completely the child empties the breast at an individual feeding[28]; (3) variations across 24 hours in the child's need for breastfeedings[20]; and (4) which breast the child feeds from first—the breast that is the dominant or nondominant milk-producing breast.[23] Because none of these elements are related to the themes of common breastfeeding advice, some mothers whose infants' behaviors fail to match up to specific expectations inherent to common advice may unnecessarily (and prematurely) stop breastfeeding as a result of misinterpretation of a benign variation as a problem. Others, however, whose infants conform to expectations but who nonetheless inadvertently dismiss an actual signal of a problem, may fail to seek help for breastfeeding problems that need expert attention.

Mothers who stop breastfeeding out of concern that their breastfeeding practice does not follow the pattern of common advice may not cite deviation from the advice as a reason for early weaning; therefore, health care professionals may not be able to address the mother's specific concerns or problems. Mothers more typically cite reasons that fall into a broader category, such as insufficient milk supply.[29] For example, a mother who cannot convince her infant to feed from the second breast may perceive that her infant is not receiving enough milk. If this concern leads her to wean, she may report insufficient milk as the reason for weaning rather than that the infant was not feeding from both breasts. Combining the findings from these analyses with the findings of Li et al[29] about the reasons women give for weaning can provide clinicians with more and deeper information to better understand and support breastfeeding dyads.

Several considerations must be taken into account when interpreting and considering generalizability of these data. Mothers of nonwhite race/ethnicity were underrepresented in this sample, and breastfeeding rates among non-Hispanic black participants were higher than those seen in national prevalence estimates for this subgroup.[22] Because this was an analysis of breastfeeding behaviors, only mothers who started breastfeeding were included, and mothers who stopped breastfeeding were not included beyond their stopping point. Data describing breastfeeding patterns in early months of the IFPS II likely include experiences ranging from significant problems to none, which makes interpretation of behavior patterns in these groups difficult. However, continued breastfeeding for many months is extremely difficult in the face of many significant breastfeeding problems. Given the longer breastfeeding durations, data from mothers who continue breastfeeding toward and beyond the child's first birthday more likely represent normal variation than inadequate or problematic breastfeeding.

CONCLUSIONS

In this study we have noted wide variation in mothers' reports of the number of daily feedings, length of feedings, and time between feedings. It is not yet clear when divergences from common advice represent normal variation in practice or real breastfeeding problems. Similarly, a better understanding is needed of how adherence to common advice is actually related to effective breastfeeding. Ultimately, given the widespread use of this kind of common breastfeeding advice, it would be extremely valuable to examine in greater detail how this kind of advice is perceived by mothers and affects their breastfeeding experience and outcomes.

Health professionals who have a deeper understanding of the long-term logistics of breastfeeding management beyond a simple set of common instructions can then help mothers make better-informed infant feeding decisions and help mothers meet their own breastfeeding goals.[30–32] Consistent with the AAP's key breastfeeding-duration recommendation, when breastfeeding ends, mothers who are adequately supported throughout their breastfeeding experience can feel confident that they were indeed able to "continue breastfeeding as long as mutually desired by mother and infant.[1]"

ACKNOWLEDGMENTS

This study was funded by the Food and Drug Administration, Centers for Disease Control and Prevention, Office of Women's Health, National Institutes of Health, and Maternal and Child Health Bureau in the US Department of Health and Human Services.

REFERENCES

1. Gartner LM, Morton J, Lawrence RA, et al. Breastfeeding and the use of human milk. *Pediatrics.* 2005;115(2):496–506
2. Cregan MD, Hartmann PE. Computerized breast measurement from conception to weaning: clinical implications. *J Hum Lact.* 1999;15(2):89–96
3. Freed GL, Clark SJ, Sorenson J, Lohr JA, Cefalo R, Curtis P. National assessment of physicians' breast-feeding knowledge, attitudes, training, and experience. *JAMA.* 1995;273(6): 472–476
4. Philipp BL, Merewood A, Gerendas EJ, Bauchner H. Breastfeeding information in pediatric textbooks needs improvement. *J Hum Lact.* 2004;20(2):206–210
5. American Academy of Pediatrics. *Caring for Your Baby and Young Child: Birth to Age Five*. 7th ed. New York, NY: Bantam; 2004
6. American Academy of Pediatrics. *Guide to Your Child's Nutrition*. New York, NY: Villard Books; 1999
7. American Academy of Pediatrics. Breastfeeding initiatives: health professionals. Available at: www.aap.org/breastfeeding/healthProf.cfm. Accessed April 11, 2008
8. American Academy of Pediatrics. Breastfeeding initiatives: Breastfeeding Promotion in Physicians' Office Practices (BPPOP

Downloaded from by guest on August 31, 2016

III) program. Available at: www.aap.org/breastfeeding/new%20bppopIII.cfm. Accessed April 11, 2008
9. Committee on Health Care for Underserved Women, American College of Obstetricians and Gynecologists. ACOG Committee opinion No. 361: breastfeeding—maternal and infant aspects. *Obstet Gynecol.* 2007;109(2 pt 1):479–480
10. Shealy KR, Li R, Benton-Davis S, Grummer-Strawn LM. *The CDC Guide to Breastfeeding Interventions*. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion; 2005
11. Schanler RJ, O'Connor KG, Lawrence RA. Pediatricians' practices and attitudes regarding breastfeeding promotion. *Pediatrics.* 1999;103(3). Available at: www.pediatrics.org/cgi/content/full/103/3/e35
12. Carruth BR, Skinner JD. Mothers' sources of information about feeding their children ages 2 months to 54 months. *J Nutr Educ.* 2001;33(3):143–147
13. Heinig MJ, Follett JR, Ishii KD, Kavanagh-Prochaska K, Cohen R, Panchula J. Barriers to compliance with infant-feeding recommendations among low-income women. *J Hum Lact.* 2006;22(1):27–38
14. Casemore S. *Exclusively Pumping Breast Milk: A Guide to Providing Expressed Breast Milk for Your Baby*. Napanee, Ontario, Canada: Gray Lion Publishing; 2004
15. Behrmann B. *The Breastfeeding Cafe: Mothers Share the Joys, Challenges, and Secrets of Nursing*. Ann Arbor, MI: University of Michigan Press; 2005
16. Murkoff H, Eisenberg A, Hathaway S. *What to Expect When You're Expecting*. 3rd ed. New York, NY: Workman Publishing Company, Inc; 2002
17. Murkoff H, Eisenberg A, Hathaway S. *What to Expect in the First Year*. 3rd ed. New York, NY: Workman Publishing Company, Inc; 2003
18. Daly SE, Hartmann PE. Infant demand and milk supply. Part 2: the short-term control of milk synthesis in lactating women. *J Hum Lact.* 1995;11(1):27–37
19. Cregan MD, Mitoulas LR, Hartmann PE. Milk prolactin, feed volume and duration between feeds in women breastfeeding their full-term infants over a 24 h period. *Exp Physiol.* 2002;87(2):207–214
20. Kent JC, Mitoulas LR, Cregan MD, Ramsay DT, Doherty DA, Hartmann PE. Volume and frequency of breastfeedings and fat content of breast milk throughout the day. *Pediatrics.* 2006;117(3). Available at: www.pediatrics.org/cgi/content/full/117/3/e387
21. Daly SE, Kent JC, Owens RA, Hartmann PE. Frequency and degree of milk removal and the short-term control of human milk synthesis. *Exp Physiol.* 1996;81(5):861–875
22. Fein SB, Labiner-Wolfe J, Shealy KR, Li R, Chen J, Grummer-Strawn LM. Infant Feeding Practices Study II: study methods. *Pediatrics.* 2008;122(suppl 2):S28–S35
23. Daly SE, Owens RA, Hartmann PE. The short-term synthesis and infant-regulated removal of milk in lactating women. *Exp Physiol.* 1993;78(2):209–220
24. Grummer-Strawn LM, Scanlon KS, Fein SB. Infant feeding and feeding transitions during the first year of life. *Pediatrics.* 2008;122(suppl 2):S36–S42
25. Howard CR, Schaffer SJ, Lawrence RA. Attitudes, practices, and recommendations by obstetricians about infant feeding. *Birth.* 1997;24(4):240–246
26. Mitoulas LR, Kent JC, Cox DB, Owens RA, Sherriff JL, Hartmann PE. Variation in fat, lactose and protein in human milk over 24 h and throughout the first year of lactation. *Br J Nutr.* 2002;88(1):29–37
27. Hartmann PE, Sherriff JL, Mitoulas LR. Homeostatic mechanisms that regulate lactation during energetic stress. *J Nutr.* 1998;128(suppl 2):394S–399S
28. Mitoulas LR, Sherriff JL, Hartmann PE. Short- and long term variation in the production, content, and composition of human milk fat. *Adv Exp Med Biol.* 2000;478:401–402
29. Li R, Fein SB, Chen J, Grummer-Strawn LM. Why mothers stop breastfeeding: mothers' self-reported reasons for stopping during the first year. *Pediatrics.* 2008;122(suppl 2):S69–S76
30. Ystrom E, Niegel S, Klepp KI, Vollrath ME. The impact of maternal negative affectivity and general self-efficacy on breastfeeding: the Norwegian Mother and Child Cohort Study. *J Pediatr.* 2008;152(1):68–72
31. Baghurst P, Pincombe J, Peat B, Henderson A, Reddin E, Antoniou G. Breast feeding self-efficacy and other determinants of the duration of breast feeding in a cohort of first-time mothers in Adelaide, Australia. *Midwifery.* 2007;23(4):382–391
32. Hauck Y, Hall WA, Jones C. Prevalence, self-efficacy and perceptions of conflicting advice and self-management: effects of a breastfeeding journal. *J Adv Nurs.* 2007;57(3):306–317

Downloaded from by guest on August 31, 2016

Characteristics of Breastfeeding Practices Among US Mothers

Katherine R. Shealy, Kelley S. Scanlon, Judith Labiner-Wolfe, Sara B. Fein and Laurence M. Grummer-Strawn

Pediatrics 2008;122;S50
DOI: 10.1542/peds.2008-1315f

Updated Information & Services	including high resolution figures, can be found at: /content/122/Supplement_2/S50.full.html
References	This article cites 21 articles, 7 of which can be accessed free at: /content/122/Supplement_2/S50.full.html#ref-list-1
Citations	This article has been cited by 4 HighWire-hosted articles: /content/122/Supplement_2/S50.full.html#related-urls
Subspecialty Collections	This article, along with others on similar topics, appears in the following collection(s): **Nutrition** /cgi/collection/nutrition_sub **Breastfeeding** /cgi/collection/breastfeeding_sub
Permissions & Licensing	Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at: /site/misc/Permissions.xhtml
Reprints	Information about ordering reprints can be found online: /site/misc/reprints.xhtml

PEDIATRICS is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since 1948. PEDIATRICS is owned, published, and trademarked by the American Academy of Pediatrics, 141 Northwest Point Boulevard, Elk Grove Village, Illinois, 60007. Copyright © 2008 by the American Academy of Pediatrics. All rights reserved. Print ISSN: 0031-4005. Online ISSN: 1098-4275.

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™

Downloaded from by guest on August 31, 2016

PEDIATRICS®
OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Characteristics of Breastfeeding Practices Among US Mothers

Katherine R. Shealy, Kelley S. Scanlon, Judith Labiner-Wolfe, Sara B. Fein and Laurence M. Grummer-Strawn

Pediatrics 2008;122;S50
DOI: 10.1542/peds.2008-1315f

The online version of this article, along with updated information and services, is located on the World Wide Web at:
/content/122/Supplement_2/S50.full.html

PEDIATRICS is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since 1948. PEDIATRICS is owned, published, and trademarked by the American Academy of Pediatrics, 141 Northwest Point Boulevard, Elk Grove Village, Illinois, 60007. Copyright © 2008 by the American Academy of Pediatrics. All rights reserved. Print ISSN: 0031-4005. Online ISSN: 1098-4275.

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™

Downloaded from by guest on August 31, 2016