

Mothers' and Clinicians' Perspectives on Breastfeeding Counseling During Routine Preventive Visits

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ABSTRACT. *Background.* Recent national statistics indicate that, despite increases in the proportion of mothers who initiate breastfeeding, the proportion that continue to breastfeed their infants through 6 months of age remains below the *Healthy People 2010* goal of 50%. National professional organizations recommend that clinicians routinely counsel mothers about the benefits of breastfeeding. Little is known, however, about the counseling provided during these visits and how mothers and their clinicians perceive breastfeeding counseling.

Objectives. We sought to describe mothers' and clinicians' perspectives on breastfeeding counseling during routine preventive visits and identify potential gaps in communication about breastfeeding and management practices.

Methods. We conducted a prospective cohort study of low-risk mother-newborn pairs and their clinicians in a large multispecialty group practice. The participating mothers completed telephone interviews at 4 and 12 weeks postpartum, and their data were linked with their obstetric and pediatric clinicians' responses to a cross-sectional mailed survey conducted during the same time period. Overall, response rates were 63% for mothers ($n = 429$) and 82% for clinicians (obstetric clinicians: $n = 54$; pediatric clinicians: $n = 67$).

Results. Of the 429 low-risk mother-newborn pairs in the study, 61% were white, 16% were black, 10% were Hispanic, and 8% were Asian, with a mean (SD) age of 32.7 (5.1) years. At 4 weeks postpartum, 319 mothers (74%) were either exclusively or mixed breastfeeding.

According to the interviews, few mothers discussed breastfeeding duration with their obstetric clinicians during their prenatal visits (15%) or with their pediatric clinicians during their infants' 2-week preventive visit (24%). Among 164 mothers whose obstetric providers said they usually or always discuss breastfeeding duration during prenatal visits, only 26 (16%) of the mothers reported that the topic was discussed with them (22%

agreement; $\kappa = -.004$). Among those mothers whose pediatric clinicians said they usually or always discuss breastfeeding duration during the 2-week preventive visit, only 25% of the mothers reported that the topic was discussed (32% agreement; $\kappa = .05$).

Many of the mothers had either returned to work by 12 weeks (29%) or planned to return to work within the next few months (43%). Although nearly all the obstetric (91%) and pediatric (97%) clinicians reported that they usually or always discuss whether a mother plans to continue breastfeeding after returning to work, only approximately half (55%) of the mothers seen by the clinicians reported that the topic was discussed. Overall, few mothers reported discussing with their clinicians specific ways to continue breastfeeding after returning to work.

Conclusion. Mothers' reports of breastfeeding advice given during routine preventive visits identified several areas in which unintentional communication gaps may occur, including specifics about breastfeeding duration and methods of breastfeeding after returning to work. Developing approaches to enhance communication with mothers during routine preventive visits could improve the support of breastfeeding. *Pediatrics* 2004;113:e405-e411. URL: <http://www.pediatrics.org/cgi/content/full/113/5/e405>; breastfeeding, counseling, concordance, clinicians.

ABBREVIATIONS. HVMA, Harvard Vanguard Medical Associates.

Increasing the rates of breastfeeding initiation and duration is a compelling public health goal in the United States. Although rates of breastfeeding initiation have increased in recent years from a low of 25% in the 1970s¹ to 65% in 2001,² breastfeeding continuation lags behind the national goals of 50% and 25% at 6 and 12 months, respectively.³ In the *Blueprint for Action on Breastfeeding*,⁴ a national policy released by the US Surgeon General, health care providers are encouraged to play an active role in breastfeeding promotion and support to increase the proportion of mothers who breastfeed their infants.

The American Academy of Pediatrics⁵ and the American College of Obstetricians and Gynecologists⁶ recommend that clinicians counsel mothers about breastfeeding initiation and continuation and be knowledgeable about the basics of lactation and the role of supplementation. Clinicians are encouraged also to offer mothers returning to work specific advice on how to continue breastfeeding in the workplace, including the use of breast pumps and the expression and storage of breast milk.⁷ Evidence sug-

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gests that formally structured, behaviorally oriented counseling and ongoing support by clinicians and other health care providers are associated with increased rates of breastfeeding initiation and continuation.⁸ Studies also suggest, however, that both obstetrician-gynecologists and pediatricians lack confidence in their skills to support breastfeeding, do not have adequate training in breastfeeding management, and are skeptical of the benefits of breastfeeding over formula feeding for infants.^{9,10}

Effective communication during clinical interactions has been shown to influence health outcomes and a patient's understanding of medical information.¹¹ Nonetheless, adherence by clinicians to breastfeeding counseling guidelines during routine preventive visits and breastfeeding-related communication between mothers and clinicians remain understudied as potential contributors to the gap between real and optimal breastfeeding practices.

The purpose of this study was to 1) describe both mothers' and clinicians' perspectives on breastfeeding counseling during routine preventive visits and 2) identify potential gaps in communication about breastfeeding and management practices.

METHODS

Overview

We conducted 1) a prospective cohort study of low-risk mother-newborn pairs and 2) a cross-sectional study of their obstetric and pediatric clinicians. Both study populations were part of Harvard Vanguard Medical Associates (HVMA), a multispecialty provider group in the greater Boston area. Participating mothers were interviewed by telephone 4 and 12 weeks postpartum. HVMA-affiliated obstetric and pediatric clinicians were mailed a self-administered survey during the same time period. Descriptive and bivariate analyses were conducted to describe areas of agreement/disagreement between mother- and clinician-reported breastfeeding advice and practices. In a previous article,¹² we examined clinician practices associated with breastfeeding duration among this same sample of mothers and their clinicians. The current article focuses on breastfeeding-related communication between the mothers and clinicians during routine preventive visits. This study was approved by the institutional review board at Harvard Pilgrim Health Care.

Study Population

We studied low-risk mother-newborn pairs in which the infant was born between January and July 2002 and received primary care from HVMA. In low-risk mother-newborn pairs, the infant was a singleton newborn with a gestational age of ≥ 36 weeks, had a birth weight of ≥ 2500 g, and had 5- and 10-minute Apgar scores of ≥ 5 ; the mother had no specific medical problems that would necessitate a prolonged hospital stay. Mother-newborn pairs were ineligible if it was determined during the preinterview screening that the mother could not be interviewed in English, the newborn had spent any time in the neonatal intensive care unit, or the newborn did not receive preventive care from HVMA. Obstetric and pediatric clinicians included HVMA doctors, nurse practitioners, and nurse midwives who routinely saw patients for preventive outpatient visits. Clinicians who saw patients primarily for urgent care visits were excluded ($n = 11$).

Data Collection

Each mother received an introductory letter by mail 2 to 3 weeks postpartum. The letter provided a description of the study and included a toll-free number that the mother could call to decline participation. Mothers who did not decline to be contacted were telephoned 4 weeks postpartum and invited to participate in the study. We defined mothers as "passively declined" if they were called at least 3 times on the weekend, 3 times during

daytime hours, and 3 times during evening hours and either 1) did not answer the telephone or 2) someone answered but repeatedly said to call back another time. We defined mothers as "actively declined" if they stated that they did not wish to participate or discontinued the telephone call. The 4-week interview took an average of 20 minutes; mothers who were still breastfeeding their infants at the time of the interview were asked to participate in a 10-minute follow-up interview 12 weeks postpartum. Both interviews consisted of closed-ended questions about who and what had influenced the mothers' decisions about how to feed their infants, problems the mother experienced with feeding, and supports, barriers, and services related to breastfeeding.

The clinician surveys, which consisted of 15 closed-ended questions, were mailed to all obstetric and pediatric HVMA doctors, nurse practitioners, and nurse midwives. The clinician surveys asked about management practices and opinions in regard to breastfeeding. Management practices included clinicians' recommendations for breastfeeding initiation, formula supplementation, and advice to mothers who were planning to return to work. To measure opinions about breastfeeding, clinicians were asked to rate the importance of their advice to parents about initiating and continuing breastfeeding. We did not ask mothers or their clinicians who had initiated the discussion of breastfeeding during their visit.

Using HVMA's computerized medical record system, we attempted to link each mother-newborn pair with the obstetric clinician who saw the mother for most visits during her pregnancy and the pediatric clinician who saw the infant for the 2-week preventive visit. We were able to link the interview data of approximately two thirds of the mothers with the survey data of their obstetric and pediatric clinicians. In terms of breastfeeding duration, mothers who were not linked to their clinicians did not differ from those who were linked. Reasons for which we were unable to link mothers and their clinicians included: 1) clinicians did not respond to the survey ($n = 29$) and 2) clinicians were ineligible to participate in the study ($n = 11$). For either of these reasons, mothers were excluded from analyses of mother-clinician dyads.

Definitions of Breastfeeding

The term "exclusive breastfeeding" was based on the World Health Organization's definition of "no supplemental liquids or solid foods other than medications or vitamins."¹³ The "mixed breastfeeding" included mothers who were not only feeding their infants breast milk but also were providing the infants with formula, water, or solid food. Weaning was defined as discontinuing breastfeeding completely after initiating it.

Statistical Analysis

The primary outcome of interest was the amount of agreement between mothers and their clinicians on specific breastfeeding advice. Percentage agreement and weighted Cohen's κ were used to determine concordance between mothers and their clinicians on breastfeeding opinions and practices. The κ statistic is a commonly used measure of agreement. κ will equal a maximum of 1.0 when there is perfect agreement between mothers and their clinicians. The most commonly accepted reference guidelines on interpretation of κ statistics suggest that a κ between .01 and .20 signifies slight agreement. A negative value for κ means that the observed amount of agreement is worse than what is expected by chance alone and thus represents very poor agreement. All data analyses were performed by using SAS version 8.2 (Cary, NC).

RESULTS

Study Population

From the computerized data, we identified an initial sample of 1036 low-risk mother-newborn pairs. Of these, 24 mothers (2%) called the toll-free number to decline participation. Of the remaining 1012 mothers, 227 mothers actively declined to be interviewed, 92 passively declined, and 41 could not be reached. Of the 652 mothers that we successfully contacted, 223 (34%) were ineligible. Reasons for ineligibility included an existing language barrier ($n = 17$), the

newborn did not receive preventive care from HVMA ($n = 164$), the newborn spent time in the neonatal intensive care unit ($n = 40$), and other reasons ($n = 2$). Thus, we completed 4-week interviews with 429 mothers. The final completion rate of 63% was calculated as the number of mothers we successfully contacted ($n = 652$) divided by the initial sample ($n = 1036$).¹⁴

Among the 429 eligible mother-newborn pairs, 319 (74%) mothers were either breastfeeding exclusively ($n = 210$) or engaged in mixed breastfeeding ($n = 109$) at 4 weeks. We attempted to interview these 319 mothers 12 weeks postpartum, and we completed interviews with 288 (90%). Of these 288 mothers, 152 (53%) were exclusively breastfeeding, 102 (35%) were engaged in mixed feeding, and 34 (12%) had weaned.

The study group (Table 1) was 61% white, 16% black, 10% Hispanic, 8% Asian, and 5% multiracial or other, with a mean age of 33 years. Forty percent of the mothers were primiparas. The educational and income levels of the study group were relatively high, and a total of 8% of the mothers had returned to work by 4 weeks postpartum. By 12 weeks postpartum, 84 (29%) of the 288 mothers available for follow-up had returned to work.

We identified 161 clinicians who routinely saw patients for preventive outpatient visits. A total of 132 (82%) returned the survey (in all cases com-

pletely filled out), of which 11 (8%) were ineligible. The completion rate of 82% was calculated as the number of completed contacts ($n = 132$) divided by the initial sample ($n = 161$). The sample included 25 obstetrician-gynecologists, 15 nurse midwives, 47 pediatricians, and 34 nurse practitioners (20 in pediatrics and 14 in obstetrics-gynecology). Most clinicians were white (87%) and had ≥ 1 children (76%). Among those with ≥ 1 children, 90% reported that their children had been breastfed. The mean number of years since completion of postgraduate training was 17.2 (± 8).

Of the 319 mothers who were breastfeeding at 4 weeks, we were able to link 181 (57%) mothers to their obstetric clinicians and 210 (66%) mothers to their pediatric clinicians. Of the 288 mothers who completed the 12-week survey, we identified 165 mother-obstetrician clinician dyads and 201 mother-pediatric clinician dyads.

Advice on Breastfeeding Duration

We asked breastfeeding mothers whether they discussed breastfeeding duration with their obstetric clinicians during their prenatal and 6-week preventive visits and whether they discussed breastfeeding duration with their infants' pediatric clinicians during the 2-week and 2-month preventive visits. In addition, we asked the clinicians how routinely they

TABLE 1. Sociodemographic and Breastfeeding Characteristics of Mothers ($n = 429$) and Clinicians ($n = 121$) in the Sample

	Mean
Mother's characteristics	
Mean maternal age, y (\pm SD)	32.7 (\pm 5.1)
Infant feeding method at 4 wk, %	
Exclusive breastfeeding	49
Mixed breastfeeding	25
Formula	19
Weaned	7
Race/ethnicity, %	
White	61
Black	16
Hispanic	10
Asian	8
Multiracial or other	5
Education, %	
High school graduate or less	13
Some college or college graduate	51
Postgraduate	36
Income, %	
\leq \$40,000	16
\$40,001–\$75,000	27
\$75,001–\$100,000	23
\geq \$100,001	34
Parity, %	
0	40
≥ 1	60
Returned to work by 4 wk, % yes	8
Returned to work by 12 wk, % yes*	29
Clinician characteristics	
Clinician type, %	
Obstetricians/nurse midwives/nurse practitioners	45
Pediatricians/nurse practitioners	55
Years since completed postgraduate training, mean in y (\pm SD)	17.2 (\pm 8.1)
Parity, %	
0	24
≥ 1	76
Breastfed their own children any length of time, %	90

* Among 288 mothers who completed the 12-week survey, 84 (29%) had returned to work.

discussed breastfeeding duration during these routine preventive visits.

Overall, few mothers said that they discussed breastfeeding duration with their obstetric clinician during their prenatal visits (15%) or with their pediatric clinician during their infants' 2-week preventive visit (24%). The mothers' reports also tended to differ from those of their clinicians. Among the 164 mothers whose obstetric providers said they usually or always discussed breastfeeding duration during prenatal visits, only 26 (16%) of the mothers reported that the topic was discussed with them (Table 2). Among those mothers whose pediatric clinicians said they usually or always discussed breastfeeding duration during the 2-week pediatric visit, only 25% of the mothers reported that it was discussed. However, higher proportions of mothers whose clinicians said they usually or always discussed breastfeeding duration (compared with occasionally or never) reported receiving such advice either at the 6-week (55%) or 2-month (41%) visit. The percent agreement ranged from 22% to 56%, and the κ statistics for all 4 of these comparisons were low ($-.004$ to $.10$).

Importance of Clinicians' Breastfeeding Advice

Of the 319 mothers who were breastfeeding at 4 weeks, 84% thought that their obstetric clinician was very supportive of their breastfeeding and 88% thought their pediatric clinician was very supportive. Of those mothers who discussed breastfeeding duration with their clinicians, 39% of the mothers thought that their obstetric clinicians' advice was very important, and 25% thought that their pediatric clinicians' advice was very important. In contrast, only 8% of the obstetric clinicians and 24% of the pediatric clinicians considered their advice to mothers on breastfeeding duration to be very important (data not shown in tables). In addition, among 143 mothers seen by an obstetric clinician who rated their own

advice about whether to breastfeed or formula feed as only somewhat or not important, 53 (37%) rated the clinicians' advice as very important (Table 2).

Comparison of Physician and Nonphysician Opinions and Practices

Compared with physicians, advanced practice clinicians (nurse midwives and nurse practitioners) were significantly more likely to perceive their advice about breastfeeding initiation as very important (61% vs 33%; $P = .003$). They were also more likely to identify the 3 following items as very important barriers to their supporting breastfeeding: limited time to address breastfeeding problems during preventive visits (69% vs 47%; $P = .015$); limited availability of lactation consultants (65% vs 29%; $P = .0001$); and limited availability of breastfeeding support services such as classes (45% vs 18%; $P = .0016$). However, nurse midwives and nurse practitioners were far more likely than physicians to report being very confident in 5 of the 6 skills rated, including evaluating latch on (81% vs 39%; $P < .0001$), teaching new mothers breastfeeding techniques (88% vs 46%; $P < .0001$), resolving problems with breast pain (71% vs 28%; $P < .0001$), resolving problems with not producing enough breast milk (60% vs 34%; $P < .0001$), and advising mothers who planned to return to work (67% vs 56%; $P = .051$).

Formula Supplementation

A total of 349 (81%) women initiated breastfeeding. By 4 weeks, however, 109 of the mothers were engaged in mixed breastfeeding and 30 had weaned. The 4 main reasons reported by mothers for introducing formula were: 1) not having enough breast milk (49% of respondents); 2) formula feeding was more convenient (33%); 3) breast pain (31%); and 4) problems with their infant latching on or sucking (28%).

TABLE 2. Concordance Between Mothers and Clinicians on Breastfeeding Counseling

Counseling on Breastfeeding Duration			Mother's Report, n (% of Row)		% Agreement	κ
			Discussed	Not Discussed		
Obstetrician discussed breastfeeding duration during prenatal visits*	Clinician report	Usually or always	26 (16)	138 (84)	22	-.004
		Occasionally or never	3 (18)	14 (82)		
Pediatrician discussed breastfeeding duration during 2-wk preventive care visit*	Clinician report	Usually or always	49 (25)	144 (75)	32	.05
		Occasionally or never	3 (18)	14 (82)		
Obstetrician discussed breastfeeding duration during 6-wk preventive care visit†	Clinician report	Usually or always	82 (55)	68 (45)	56	.10
		Occasionally or never	4 (27)	11 (73)		
Pediatrician discussed breastfeeding duration during 2-month preventive care visit†	Clinician report	Usually or always	75 (41)	107 (59)	42	-.03
		Occasionally or never	10 (52)	9 (48)		
Importance of obstetrician's advice to mothers on whether to breast or formula feed‡	Clinician rating	Very important	37 (33)	75 (67)	34	-.02
		Somewhat or not important	53 (37)	90 (63)		

* Of the 319 mothers who were breastfeeding at 4 weeks, we identified 181 mother-obstetric clinician dyads and 210 mother-pediatric clinician dyads.

† Of the 288 mothers who completed the 12-week survey, we identified 165 mother-obstetric clinician dyads and 201 mother-pediatric clinician dyads.

‡ All mothers in the study ($n = 429$), of which we identified 255 mother-obstetric clinician dyads, were asked this question.

Of the 319 mothers who were breastfeeding at 4 weeks, 84 (26%) reported that a health care professional had recommended formula supplementation for their infant. The main reasons for which mothers reported that supplementation was recommended included: 1) the infant seemed hungry between feeding (48%); 2) the mother had mastitis, cracked or painful nipples, or problems with their infant latching on (13%); and 3) the mother was tired (8%) (Table 3).

The majority of clinicians (90%) said they encouraged mothers who were uncertain whether to initiate breast or formula feeding during their infants' first month of life to breastfeed exclusively. In addition, 93% of the clinicians agreed that breastfeeding benefits were not small compared with other influences on infant health. In contrast to mothers' responses, the reasons for which clinicians most commonly reported recommending formula supplementation included: 1) when an infant was not gaining enough weight (89%); 2) whenever the mother wishes to (32%); and 3) if the mother was tired (22%) (Table 3).

Recommendations to Mothers Returning to Work

By 12 weeks postpartum, 84 (29%) of the mothers had returned to work. An additional 124 (43%) mothers were on maternity leave and planned to return to work a mean of 4.5 months (± 3.3) postpartum. Of those mothers who had either returned to work or were on maternity leave, 85% reported that they were either already back at work and continuing to breastfeed or planned to breastfeed after returning to work. Likewise, 78% were either pumping currently or planned to pump.

Although nearly all obstetric (91%) and pediatric (97%) clinicians reported that they usually or always

discuss whether a mother plans to continue breastfeeding after returning to work, only approximately half (55%) of the mothers seen by the clinicians reported that it was discussed (Table 4). Overall, few mothers reported discussing with their clinicians specific ways to continue breastfeeding after returning to work. Specifically, among mothers whose pediatric clinicians said they usually or always discuss specific ways for mothers to continue breastfeeding after returning to work during their infants' 2-month well-infant visit, few of the mothers reported discussing the type of breast pump to use (15%), the number of times per day to pump to maintain breast milk supply (16%), and guidelines for breast milk storage (26%). Among those mothers whose clinicians said they usually or always discuss specific ways for mothers to continue breastfeeding after returning to work during the 6-week obstetric visit, only 19% of the mothers reported discussing the type of breast pump to use, 10% discussed the number of times a day to pump to maintain breast milk supply, and 23% discussed guidelines for breast milk storage (Table 4).

DISCUSSION

In this study of a large multispecialty group practice in the Boston area, we identified several gaps in communication between mothers and clinicians about breastfeeding. Most of the mothers rated their clinicians as very supportive of the mothers' choice to breastfeed, but most mothers did not recall receiving specific guidance from their clinicians about the number of months to continue breastfeeding during their preventive care visits. The mothers' reports also differed from their clinicians in regard to the most common reasons for which formula supplementation was recommended and about whether the mothers received specific advice about breastfeeding after returning to work. These findings suggest that programs to enhance communication between mothers and their clinicians during routine preventive visits could improve the ability of clinicians and health care organizations in the United States to promote breastfeeding.

Our results are in accordance with previous studies that suggest that, although clinicians recommend breastfeeding, they may not follow all the specifics of current national guidelines.^{10,15} A national survey found that pediatricians' recommendations regarding supplementary feedings and breastfeeding practices were sometimes contrary to those of the American Academy of Pediatrics.¹⁰ Similarly, not all obstetrician-gynecologists follow national guidelines regarding infant feeding.¹⁵

The current study is unique in that the self-reported practices and opinions of clinicians were linked with those of their patients. Several federal and health organizations recommend that physicians 1) counsel mothers to initiate breastfeeding, 2) discuss breastfeeding continuation during routine preventive visits, and 3) discourage supplements unless a medical indication exists.⁴⁻⁶ One of the strengths of this study was that we were able to examine whether mothers recalled receiving such advice during rou-

TABLE 3. Reported Situations for Formula Supplementation of Normal Breastfeeding Infants

Situations for Which Formula Supplementation Was Recommended*	%
Mothers	
Infant seems hungry	48
Mother has mastitis, cracked or painful nipples, or problems with infant latching on	13
Mother is tired	8
Infant is not gaining enough weight	7
Infant was jaundiced	6
Mother feels she does not have enough milk supply	6
Infant was dehydrated	5
Mother plans to return to work or school	2
Other†	10
Clinicians	
Infant is not gaining enough weight	89
Whenever the mother wishes to	32
Mother is tired	22
Mother plans to return to work or school	19
Mother feels she does not have enough milk supply	15
Infant seems hungry between breastfeeds	12
Mother has mastitis	12

Mothers and clinicians were asked to check all that apply. Percentages reflect proportion of respondents.

* Among 84 of the breastfeeding mothers who reported that a health care professional recommended formula supplementation.

† Includes mother being sick or on medication, infant not happy with breast milk, infant needs to get used to the bottle, and infant rejecting breast milk.

TABLE 4. Breastfeeding Counseling for Mothers Returning to Work

Breastfeeding Counseling for Mothers Returning to Work*			Mother's Report, n (% of Row)		% Agreement	κ
			Discussed	Not Discussed		
Obstetrician						
Discussed how to continue breastfeeding after returning to work†	Clinician report	Usually or always	58 (55)	47 (45)	53	-.03
		Occasionally or never	7 (64)	4 (36)		
Discussed how many times a day to pump to maintain breast milk supply‡	Clinician report	Usually or always	4 (10)	38 (90)	44	-.04
		Occasionally or never	5 (14)	30 (86)		
Discussed guidelines for breast milk storage‡	Clinician report	Usually or always	8 (23)	27 (77)	51	-.03
		Occasionally or never	11 (26)	32 (74)		
Pediatrician						
Discussed how to continue breastfeeding after returning to work	Clinician report	Usually or always	68 (55)	55 (45)	55	.01
		Occasionally or never	2 (50)	2 (50)		
Discussed how many times a day to pump to maintain breast milk supply§	Clinician report	Usually or always	9 (16)	48 (84)	28	-.004
		Occasionally or never	2 (17)	10 (83)		
Discussed guidelines for breast milk storage§	Clinician report	Usually or always	9 (26)	25 (74)	60	.21
		Occasionally or never	2 (6)	33 (94)		

* Of the 208 mothers who had already returned to work or were on maternity leave, we identified 129 mother-obstetric clinician dyads and 127 mother-pediatric clinician dyads that had discussed breastfeeding after returning to work.

† Of the 129 mother-obstetric clinician dyads identified, 13 mothers answered "don't know" to this question.

‡ Among 78 mother-obstetric clinician dyads who discussed how to continue breastfeeding after returning to work.

§ Among 69 mother-pediatric clinician dyads who discussed how to continue breastfeeding after returning to work.

tine visits. Mothers reported that breastfeeding duration was discussed infrequently, particularly during early preventive visits, with obstetric and pediatric clinicians. Formula supplementation was recommended by clinicians for reasons in which alternative approaches existed that did not interfere with exclusive breastfeeding.

Our findings are in accordance with earlier studies that suggest that programs are warranted to improve clinical practices in support of breastfeeding. The literature on physician behavior suggests that education and additional dissemination of breastfeeding guidelines will only have a limited effect on management practices.^{16,17} Instead, evidence indicates that strategies to improve physicians' adherence to guidelines should 1) increase awareness and familiarity with guidelines, 2) provide clinicians with educational tools on breastfeeding, 3) improve physicians' self-efficacy and outcome expectancy, and 4) remove external barriers to physicians providing breastfeeding counseling, such as time limitations.¹⁸

Communication gaps are likely to be important contributing factors in the observed disagreement between mothers' reports and clinicians' perceptions of their breastfeeding management. Previous studies have shown that good communication between patients and their doctors can influence information exchange, satisfaction with care, and adherence to guidelines.¹¹ Furthermore, studies support the effectiveness of provider-delivered counseling on feeding and nutrition^{19,20} as well as other common pediatric issues.²¹

Specific verbal and nonverbal physician behaviors and communication patterns can facilitate communication in clinical interactions.^{22,23} Physicians' verbal behaviors such as encouragement,^{24,25} support, and positive reinforcement have been found to influence mothers' decisions about breastfeeding continuation, although nonverbal communication between mothers and their clinicians during breastfeeding-related

interactions have not been studied. Communication styles also may explain the difference between mothers' and clinicians' reports. Communication that is centered more on patients and their concerns, as opposed to biomedical-driven conversations, may enhance information gathering and relationship building.^{23,26} In breastfeeding-related interactions, this patient-centered approach may facilitate a patient's disclosure of breastfeeding problems and may reduce communication gaps around the need for supplementary feedings. Finally, another way in which clinicians can bridge communication gaps with their breastfeeding patients is through the use of motivational interviewing, a patient-centered approach to counseling and health promotion that has been studied extensively in promoting preventive health behaviors such as smoking cessation.^{27,28} This counseling technique relies heavily on building self-motivation for behavior change and could be particularly useful during prenatal and early postnatal visits with mothers to promote both breastfeeding initiation and continuation. Our findings suggest that studies to examine the application of motivational interviewing and other patient-centered communication approaches may be useful.

Half of all breastfeeding mothers in our study discussed breastfeeding after returning to work with their clinicians; however, few mothers recalled receiving advice on specific ways to do so. Returning to work has been found to be associated with lower rates of breastfeeding continuation.^{7,24} Thus, clinicians are encouraged to provide counseling for breastfeeding mothers who plan to return to the workplace.⁷ In addition to discussing whether a mother plans to breastfeed after returning to work, clinicians should consider discussing infant-feeding patterns, various options for feeding or pumping after returning to work, and guidelines for expression and storage of breast milk.⁷

LIMITATIONS

Interpretation of our study should consider several limitations. First, members of the study population were insured, with good financial access to preventive care. Thus, results may not be generalizable to mothers and infants who lack health insurance or preventive care access. In addition, although the study sample was diverse in race/ethnicity, the mothers' educational and income levels were relatively high. For this reason, the opinions and practices of socioeconomically disadvantaged populations may differ from those identified in this study.

We relied on clinicians' and mothers' self-reports of their opinions and practices toward breastfeeding rather than on clinical records; therefore, the results are subject to recall and social-desirability bias. In addition, missing data from mothers or clinicians only allowed us to link approximately two thirds of the breastfeeding mothers with their clinicians for the analyses of dyads. Furthermore, we only collected information on clinicians' overall advice in general and not to the particular women in this study. Finally, it is important to acknowledge that neither the mothers' reports nor the clinicians' reports of breastfeeding management and practices represent the "truth." However, mothers' beliefs and actual practices have direct effects on breastfeeding continuation, and the perceived recommendations of their clinicians are important for many mothers.

CONCLUSIONS

We found several areas in which gaps occurred between the advice that clinicians intended to deliver about breastfeeding and the information that the mothers recalled receiving during preventive visits. These communication gaps may represent important missed opportunities for promoting breastfeeding. Closer clinician adherence to national breastfeeding guidelines and enhanced communication between mothers and their clinicians may help improve the proportion of mothers meeting national goals for breastfeeding continuation.

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