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Characteristics of Breastfeeding Discussions at the Initial Prenatal Visit

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Abstract

Objective—To describe the observed characteristics of first prenatal visit breastfeeding discussions between obstetric providers and their pregnant patients.

Methods—This analysis was part of a larger study involving 69 providers and 377 patients attending their initial prenatal visits at a single clinic. Audio recordings and transcripts from the first 172 visits (including 36 obstetric-gynecology residents, six nurse midwives and five nurse practitioners) were reviewed for breastfeeding discussion occurrence, timing, and initiator of discussions, and adherence to American College of Obstetricians and Gynecologists (the College) prenatal breastfeeding guidelines. Descriptive statistics were used to characterize the sample and frequency of breastfeeding discussions. Logistic regression and chi-square tests were used to examine patterns in women's breastfeeding discussion preferences and discussion occurrence. Conversations were qualitatively analyzed for breastfeeding content.

Results—Breastfeeding discussions were infrequent (29% of visits), brief (m=39 seconds), and most often initiated by clinicians in an ambivalent manner. Sixty-nine percent of breastfeeding discussions incorporated any College breastfeeding recommendations. Breastfeeding was significantly more likely to be discussed by certified nurse midwives (CNMs) than residents (OR 24.54, 95% CI: 3.78-159.06; p<0.01), and CNMs tended to engage patients in more open discussions. Women indicating a preference for breastfeeding discussions at the first visit (n=19) were more likely to actually have the discussion (p<0.001).

Conclusion—Observed breastfeeding education at the first prenatal visit was suboptimal. The causes and effect of this deficiency on breastfeeding outcomes remains an important point of investigation.

Introduction

Half of women make the decision to breastfeed prior to conception, while the remaining half may make the decision during early pregnancy(1-4). Correspondingly, early prenatal care is recognized as a critical time to initiate an open dialogue about breastfeeding. Research indicates that counseling by obstetric care providers increases the rates of breastfeeding

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initiation and duration(5-7). The American College of Obstetricians and Gynecologists (the College) published an opinion for the delivery of prenatal breastfeeding education by obstetrician–gynecologists, recommending that this commence at the first prenatal appointment and be reinforced and expanded upon in subsequent visits(8). Specific College counseling recommendations (Table 1) are similar to those supported by other maternal-child health organizations for clinicians who provide prenatal care, including the American Academy of Family Physicians, American Academy of Pediatrics, and the Academy of Breastfeeding Medicine(9-11).

Despite these published recommendations, patient and obstetric provider-reported incidence of prenatal breastfeeding discussions vary widely (~15 to 97%, respectively)(12-14). Indeed, multiple studies indicate that clinicians' self-report of recommended behaviors is unreliable(15-17). In this study, we used audio-recorded first obstetric visits to describe the frequency, content, and characteristics of breastfeeding discussions between obstetric clinicians and pregnant patients.

Materials and Methods

This analysis was part of an ongoing NIH-funded parent study about patient-provider communication in prenatal care, which included 69 providers and 377 patients at the time of analysis. We selected the first 172 visits for the current analysis. Details regarding outcomes of interest (e.g., breastfeeding content) were not disclosed to participants. Data collection took place in an urban, hospital-based prenatal clinic serving a racially diverse population of women, the majority of whom were on medical assistance. All clinicians who provided obstetric care in the clinic were eligible for study participation. Patients being seen for their initial prenatal appointment by participating clinicians were approached for study consent and enrollment in the waiting room. After confirmation that the patient was not considering pregnancy termination or adoption, visits were audio-recorded. Recordings were begun when the patient entered the examination room prior to seeing the clinician and stopped when the patient exited the room to be discharged from the clinic. At the end of the visit, an investigator (CH, JT) verbally administered a questionnaire to patient participants about their health and obstetric history, demographics, breastfeeding intentions and recollections and preferences for breastfeeding discussions with the clinician. Audio-recorded visits were later transcribed verbatim. These transcripts, as well as the original de-identified audio files and postvisit questionnaires were used in the analysis. All visits took place in a 20-month period from 2011-2012. The study was approved by the University of Pittsburgh Institutional Review Board, and all patients and clinicians signed written informed consent prior to any study procedures.

Text and audio data for all visits were reviewed for any discussion or mention of breastfeeding, total time spent discussing breastfeeding, timing of the breastfeeding discussion during the visit, initiator of the breastfeeding conversation (e.g., clinician or patient), and adherence to a measurable subset of College breastfeeding recommendations, including discussion of prior breastfeeding experience, statement of support for breastfeeding, exploration of patient-perceived barriers to breastfeeding, and discussion of breast changes relative to pregnancy and breastfeeding. Audio recordings and transcripts were listened to and read in their entirety, respectively, and transcripts were additionally examined using a keyword search for the following terms: lact-, breast-, milk, feed, colostrum, nipple, formula, bottle. Patient-provider exchanges involving breastfeeding, inclusive of both speaking and pauses in conversation, were timed using a simple digital stopwatch. Researcher-observed frequency of breastfeeding discussions were compared to patient post-interview self-report of breastfeeding discussions. When any discrepancies

between observed versus reported breastfeeding discussions were noted, the audio and transcript were reviewed again.

Descriptive statistics (means, ranges, frequencies/proportions) were used to characterize the sample and frequency of breastfeeding discussions. Binary logistic regression and chi-square tests were used to assess for significant differences in breastfeeding plans among demographic groups and to examine associations between women's feeding plans, breastfeeding discussion preferences and observed occurrence of actual discussions. Given that the number of recorded visits per provider varied, we used logistic regression with generalized estimating equations to control for within provider correlation when we examined differences in breastfeeding discussion incidence by provider type. Quantitative data was analyzed with SPSS v.20.

We also performed qualitative analyses of the breastfeeding discussions. Conversations were coded by JD for breastfeeding-specific content (e.g., breastfeeding concerns), context (e.g., other issues discussed during visit, clinician/patient tone), and accuracy of breastfeeding information. Thirty audio recordings (17% of sample; 21 different providers) were also chosen at random and independently reviewed by a second investigator (MN) and inter-coder reliability assessed using Cohen's kappa(18). Summaries of breastfeeding discussions for each clinician were developed from the coding schema to identify patterns in the data and discussed among the study team. The final analysis represents a joint interpretation of the data among all authors. Atlas.ti (version 6.2) was used to organize and manage the qualitative coding.

Results

Sample

The analysis included 172 initial prenatal visits with 47 different clinicians. Patient participants ranged in age from 18-45 years (*M*=25, *SD*=5.2); all were being seen for their initial prenatal appointment in the practice. Gestational dating based on patient self-report ranged from 4-37 weeks (*M*=12 weeks, *SD*=7.0). Number of pregnancies, including the index pregnancy, ranged from 1-14 (*M*=3, *SD*=2.2). Number of prior births ranged from 0-8 (Table 2).

Clinicians included 6 certified nurse midwives (CNMs), 5 certified registered nurse practitioners, and 36 obstetrics and gynecology residents (postgraduate years 1-4; 15 residents had study visits over 2 post-graduate years). There were 44 female and 3 male clinicians. Clinician sample composition was 81% (n=38) Caucasian, 6% (n=3) Black/ African American, 6% (n=3) Asian, and 6% (n=3) “other” (self-report). More comprehensive clinician background data were unavailable due to the ongoing nature of the study and collection of most of this information in exit interviews.

Frequency and Characteristics of Breastfeeding Discussions

In total, breastfeeding was discussed in 49 of the 172 (29%) visits (Table 1). The majority of discussions were initiated by clinicians, rather than patients, and occurred during the breast exam. The longest breastfeeding discussion lasted 3 minutes, 25 seconds, while the mean duration was 39 seconds (mean visit duration=21 minutes). At least one College breastfeeding counseling recommendation was incorporated into 34 of the 49 breastfeeding discussions (69%). Assessment of prior breastfeeding experience was the most frequently addressed College recommendation during breastfeeding discussions (25 visits).

Incidence of Breastfeeding Conversations by Clinician Type

Breastfeeding was discussed in at least one visit by 30% of residents (n=11), 83% of CNMs (n=5), and 100% of nurse practitioners (n=5). Among providers who had more than one recorded visit, 22% of residents (n=8), 83% of CNMs (n=5) and 20% of nurse practitioners (n=1) discussed breastfeeding in ≥ 50% of all their visits. Breastfeeding was significantly more likely to be discussed by CNMs than residents (OR 24.54, 95% CI: 3.78-159.06; p<0.01; average correlation for repeated measures among clinicians=0.185; effective n=115). Given the strong differences between CNMs and residents, we split residents into early and more senior trainees (postgraduate years 1 & 2; postgraduate years 3 & 4). No differences were noted in breastfeeding discussions between these resident groups (OR = 0.58, 95% CI: 0.17-2.00; p=0.39). There were no other significant clinician differences in incidence of breastfeeding discussions.

Patient Post-Visit Self-Reported Breastfeeding Plans, Self-Reported Discussion Preferences and Researcher-Observed Discussion Occurrence

Women who were married or living with a partner and those earning ≥$15,000 annually were more likely than single and lower-earning women to intend to breastfeed (χ^2 (2, 172)=6.7, p=0.03; χ^2 (4, 163)=16.0, p<0.01, respectively). Primiparous women were more likely to be unsure of feeding plans (χ^2(2, 172)=6.1, p=0.04) (Table 2). Older patients and patients with prior children were significantly less likely than their younger and primiparous counterparts to want to talk about breastfeeding with the care provider (uOR 0.9, 95% CI: 0.8-0.9, p=0.03; uOR 0.3, 95% CI: 0.1-0.5, p<0.001, respectively). There were no significant patient demographic differences in whether breastfeeding was discussed in the index visit, with one exception: breastfeeding was more likely to be mentioned during visits with smokers than non-smokers (uOR 2.1, 95% CI 1.1-4.1, p=0.04).

Compared to those who planned to feed artificial milk, those who intended to breastfeed and those who were undecided about breastfeeding were significantly more likely to want to talk to the clinician about breastfeeding at some point in pregnancy (uOR 9.7, 95% CI 4.2-22.5; uOR 20.4, 95% CI: 6.4-65.1, respectively; p<0.001). There was no significant difference in whether breastfeeding was actually discussed based on a patient's feeding plans (χ^2(2, 172)=1.56, p=0.46). Those who preferred to talk about breastfeeding at the first prenatal visit (n=19; 11% of sample) were significantly more likely to actually discuss breastfeeding at the index visit compared to those who did not want to discuss breastfeeding at all (n=59; 34%) or indicated that the discussion could occur at another visit (n=94; 55%) (uOR 8.5, 95% CI 2.7-27.0, p<0.001; uOR 6.3, 95% CI 2.2-18.5, p=0.001, respectively) (Table 2).

Kappa interrater reliabilities for observed frequency of breastfeeding discussions, initiator of breastfeeding discussions, discussion of prior breastfeeding experience, and discussion of the sufficiency of a patient's anatomy for breastfeeding were calculated at 100%. Timing of discussions, clinician statement of support for breastfeeding, exploration of potential breastfeeding barriers, and discussion of breast changes related to pregnancy all achieved substantial levels of interrater agreement (Kappa=0.65-0.80; p<0.001). Of 25 total discrepancies between patient-reported and researcher observed occurrence of a breastfeeding discussion (14% disagreement), 20 involved patient endorsement and researcher non-endorsement of a discussion. Upon re-review of audio and text, the researchers' observations were upheld in all cases.

Content and Style of Breastfeeding Discussions

Our qualitative examination of breastfeeding discussions indicated that most clinicians had a fairly standard repertoire that did not deviate significantly between patients. Discussions were most often initiated by providers in a manner that conveyed ambivalence toward the

feeding decision (e.g., “Do you plan on breastfeeding or bottle-feeding?”, “Did you breastfeed or bottle-feed [your other children]?”). In contrast, one clinician consistently opened the breastfeeding conversation by stating, “I hope you’ll consider breastfeeding.” Thereafter, breastfeeding “scripts” typically consisted of praising the breastfeeding decision (if patient planned to breastfeed), offering a recommendation to breastfeed and noting the benefits of breastfeeding. If patients did not raise specific questions or concerns, clinicians then transitioned to other topics.

Resident trainees rarely personally endorsed a breastfeeding recommendation; rather, they used phrases such as, “[Breastfeeding is] recommended by *pediatricians and OBs*,” and “*We* recommend breastfeeding.” In contrast, CNMs frequently used the first-person to indicate their support for breastfeeding, for example, “*I* think it's worth a try,” “Any chance *I* can convince you [to breastfeed]?”

In discussing benefits, clinicians mentioned breastfeeding as “healthier,” “the best thing/ really good for you and the baby.” Discussions included both infant and maternal benefits (e.g., accelerated postpartum weight loss; enhanced infant bonding; financial savings; fewer infant allergies, digestive problems; infants “smarter”). Comparisons of breastfeeding to formula and discussions regarding risks of artificial feeding rarely occurred. Instead, most practitioners maintained that breastfeeding was a “personal choice,” any breastfeeding was better than none, and combining breast- and artificial- feedings was a choice equitable to exclusive breastfeeding.

Patient breastfeeding concerns broached during visits included the following: lack of time to devote to breastfeeding (e.g., work or other child obligations; n=4 patients); breast appearance after weaning (n=1); adequacy of breast anatomy for breastfeeding (e.g., small breasts, breast reductions; n=2); pain or discomfort with breastfeeding (n=6); compatibility of breastfeeding with certain substances or conditions (e.g., alcohol, tobacco, methadone, hepatitis C; n=5); and recurrence of past breastfeeding problems (e.g., latching issues, perceived low milk supply; n=3). Responses to these concerns varied among clinician type and were classified into one of three general categories: facilitative, avoidant/dismissive, and misleading. In facilitative responses, clinicians exhibited ease when breastfeeding concerns were broached and spent time validating concerns and brainstorming solutions. As a group, CNMs exhibited this style more often than either nurse practitioners or residents (Example: CNM: What makes you not want to breastfeed? PATIENT: ‘Cause it's uncomfortable. CNM: Do you think? Have you heard that it hurts your breasts? PATIENT: Yes, I heard that… CNM: Sometimes it does. Especially when you're first learning…There's a lot of good reasons to do it. It's really good for babies. PATIENT: What's the other reasons?). In avoidant/dismissive responses, clinicians ignored, changed the subject, or turned the conversation back to a rote list of benefits when breastfeeding concerns were introduced. (Example: PATIENT: I tried breastfeeding, but it was like a week or two and I just went right to bottle. RESIDENT: Okay. PATIENT: It was just painful. RESIDENT: Okay. PATIENT: I mean, I want to try again, but it just didn't work out those first two times. RESIDENT: Your last baby was born in 2008 or 2010?). In misleading responses, clinicians perpetuated commonly held breastfeeding myths, including “pumping and dumping” as a method to clear alcohol from breast milk and the incompatibility of smoking and breastfeeding (Example: RESIDENT: Did you breastfeed your [other] children? PATIENT: No, I smoke. RESIDENT: And you're planning to bottle-feed again with this pregnancy? How can we help you to cut back on your smoking?).

Patient fears about methadone incompatibility with breastfeeding, vertical transmission of hepatitis C through breast milk, and the size of breasts negatively affecting milk output were correctly dispelled by clinicians in all cases; 5 of 6 clinicians provided a fair assessment of

the minor discomfort normally associated with early breastfeeding (i.e., nipple stretch pain); communication was inconsistent, however, regarding the possible negative effect of breast reduction surgery on milk supply and key role of appropriate breastfeeding management on prevention of low milk supply and latching problems. In general, extended dialogues about these issues were rare; instead, practitioners tended to defer more detailed discussions to outside breastfeeding resources or until subsequent appointments.

Discussion

Few recent studies have addressed the incidence and content of breastfeeding discussions during prenatal care visits, and all rely on retrospective self-report data(19-21). In one study of postpartum recall data, only 15% of mothers reported a prenatal discussion about breastfeeding duration, and only 16% reported breastfeeding counseling despite receiving care from clinicians who reported they “usually or always” discussed breastfeeding(12). In another study of postpartum women, only 17% reported that their prenatal breastfeeding concerns were addressed by the obstetric provider(22). Our study attempted to address the inconsistency between patient and provider self-report by examining actual incidence of discussions; our findings corroborate patient report that prenatal breastfeeding education is not routine.

Even when breastfeeding was discussed, our analysis demonstrates inadequacies in content, consistent with prior work(14, 23). Graffy and Taylor(24) reported that pregnant and postpartum women desired open breastfeeding conversations with clinicians, including the opportunity to ask questions. These women also expressed a need for more information prior to birth about normal breastfeeding and management of common breastfeeding concerns (e.g., breast milk expression, timing, and duration of feedings). There is a lack of evidence, however, on preferences for and efficacy of general compared with personal endorsements of breastfeeding by providers. While it may not be feasible for clinicians to engage patients in detailed breastfeeding discussions, our findings indicate that basic recommendations are not being met. At a minimum, clinicians should address the breastfeeding topics itemized in the College opinion and have resources available if questions arise beyond one's level of expertise.

This study did not address practitioner characteristics or opinions that may have influenced breastfeeding discussions. Evidence suggests, however, that a clinician's positive personal breastfeeding experience may improve breastfeeding counseling(25-26). Conversely, a perceived lack of time during visits, devaluation of prenatal breastfeeding discussions, inadequate breastfeeding training, or conceptualization of breastfeeding education as the pediatric provider's domain may contribute to suboptimal prenatal breastfeeding counseling(12, 23, 26-27). Taveras et al. (2004) reported that among 255 mother-obstetrician dyads, 39% of mothers thought that their obstetrician's breastfeeding advice was “very important,” while only 8% of obstetricians thought the same (12). In addition, compared to midwife training programs, physician education curricula commonly lack clinical and didactic breastfeeding content(14, 26), which may have contributed to the provider type-specific differences we observed in breastfeeding discussions (although resident trainees in the study may have not yet received planned breastfeeding education). Related to these training deficits, the U.S. Surgeon General recently issued a call for enhanced breastfeeding education for all healthcare providers(28).

Of note, patients did not often raise breastfeeding concerns themselves, and most thought breastfeeding counseling could be deferred until later visits. However, this contradicts knowledge that infant feeding decisions are most often made before the second trimester and that clinicians are influential in these early decisions(1, 4-6; taveras 2004). Evidence

suggests that many women are unaware of and subsequently blindsided by difficulties encountered during breastfeeding(24). Earlier breastfeeding conversations may facilitate enhanced breastfeeding preparation, confidence, and success. Breastfeeding discussions during the initial prenatal visit may be even more critical in practices serving uninsured and minority populations, as these patients are at risk for inconsistent prenatal care(29-30).

Strengths of this analysis include incorporation of both qualitative and quantitative data, the relatively large sample, and use of observational, rather than self-report data. However, because we analyzed first prenatal visit data from a single practice, findings may not reflect other regions, patient populations, healthcare systems (e.g., private practices), practitioners (e.g., attending physicians), and subsequent prenatal visits. The small number of nurse practitioners and CNMs likely limited our ability to detect significant differences among clinicians. Additionally, study participants may have censored their discussions due to awareness of being audio-recorded, and breastfeeding discussions may have occurred “off-the-record” with other clinical staff (e.g., nurses). The latter may explain some of the discrepancy between patient-recollected and researcher-observed breastfeeding conversations.

Our study raises several important questions. First, it is uncertain how clinician and conversation characteristics (e.g., style, content) affect actual breastfeeding outcomes. The optimal format and content of didactic and experiential breastfeeding education for clinicians also requires greater attention and standardization. It is unknown whether obstetric clinicians are aware of College breastfeeding recommendations, and whether they have sufficient training to implement them. Acquisition of such data is important, however, as inadequate breastfeeding support from clinicians is a highly modifiable barrier to breastfeeding initiation and continuation.

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Table 1

Characteristics of Breastfeeding Discussions and American College of Obstetricians and Gynecologists Recommendation Adherence by Clinician Type

	All Visits Meeting Criteria n (%) of 172 Total Visits	CNM Visits Meeting Criteria n (%) of 24 Total Visits	Nurse Practitioner Visits Meeting Criteria n (%) of 41 Total Visits	Obstetrics and Gynecology Resident Visits Meeting Criteria n (%) of 107 Total Visits
Breastfeeding discussion	49 (29)	21 (88)	7 (17)	21 (20)
1. Initiation of discussion				
a. Patient	6 (12)*	3 (14)*	1 (14)*	2 (10)*
b. Clinician	43 (88)*	18 (86)*	6 (86)*	19 (91)*
2. Discussion timing				
a. During breast examination	21 (43)*	8 (38)*	3 (43)*	10 (48)*
b. During prenatal history	12 (25)*	7 (33)*	0 (0)*	5 (24)*
c. Random point in visit	11 (22)*	2 (10)*	4 (57)*	5 (24)*
d. Multiple times in visit	5 (10)*	4 (19)*	0 (0)*	1 (5)*
American College of Obstetricians and Gynecologists Recommendations				
Assessed prior breastfeeding exposure or personal experience	25 (15)	10 (42)	4 (10)	11 (10)
Recommended or encouraged breastfeeding *and* superiority to artificial feeding	4 (2)	1 (4)	2 (5)	1 (1)
(vs. support statement for breastfeeding without reference to artificial feeding)	25 (15)	14 (58)	0 (0)	11 (10)
Explored and/or addressed possible patient-perceived barriers to breastfeeding	17 (10)	11 (5)	3 (7)	3 (3)
Discussed breast changes occurring during pregnancy (e.g., leaking colostrum, increase in breast volume)	35 (20)†	7 (29)†	16 (39)†	12 (11)†
Assured the patient that her anatomy was sufficient for breastfeeding during the breast examination. If structural problems were noted, discussed the availability of breastfeeding support and assistance	2 (1)	2 (8)	0 (0)	0 (0)

*Represents number and proportion of breastfeeding discussions (not total visits) for each characteristic among different providers.

†Includes visits in which recommendation was addressed, with or without an accompanying breastfeeding discussion.

CNM, certified nurse midwife.

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Table 2

Sample Characteristics, First Prenatal Visit Breastfeeding Discussion, and Discussion Preferences by Infant Feeding Plans

	n (%) of Full Sample (N=172) With Characteristic	n (%) of Those Who Intended to Breastfeed (n=89) With Characteristic	n (%) of Those Who Intended to Artificially Feed (n=44) With Characteristic	n (%) of Those Unsure About Feeding Plans (n=39) With Characteristic
Age (years)				
18-21	49 (29)	23 (26)	12 (27)	14 (36)
22-25	57 (33)	28 (31)	12 (27)	17 (44)
26-29	31 (18)	19 (21)	6 (14)	6 (15)
30+	35 (20)	19 (21)	14 (32)	2 (5)
Race				
White/Caucasian	64 (37)	34 (38)	17 (39)	13 (33)
Black/African American	90 (52)	46 (52)	22 (50)	22 (56)
Other (Hispanic, Asian, “Other”)	18 (11)	9 (10)	5 (11)	4 (10)
Marital status				
Single	84 (49)	**35 (39)**	**26 (59)**	**23 (59)**
Married or living with a partner	88 (51)	**54 (61)**	**18 (41)**	**16 (41)**
Annual income (individual)*				
<$5,000	69 (40)	**33 (37)**	**14 (32)**	**22 (56)**
$5,000-14,999	44 (26)	**17 (19)**	**17 (39)**	**10 (26)**
>$15,000	50 (29)	**36 (40)**	**7 (16)**	**7 (18)**
Education level				
Grade school	23 (13)	9 (10)	8 (18)	6 (15)
High school diploma	61 (36)	28 (32)	18 (41)	15 (39)
Some college, associate or bachelor's degree	88 (51)	52 (58)	18 (41)	18 (46)
Smoker	63 (37)	29 (33)	21 (48)	13 (33)
Prior pregnancies	123 (72)	64 (72)	34 (77)	25 (64)
Prior live births	99 (58)	**51 (57)**	**31 (71)**	**17 (44)**

	n (%) of Full Sample (N=172) With Characteristic	n (%) of Those Who Intended to Breastfeed (n=89) With Characteristic	n (%) of Those Who Intended to Artificially Feed (n=44) With Characteristic	n (%) of Those Unsure About Feeding Plans (n=39) With Characteristic
Index visit in first trimester (<13 weeks)	117 (68)	62 (70)	28 (64)	27 (69)
Want to talk to provider about breastfeeding				
No	59 (34)	**21 (24)**	**33 (75)**	**5 (13)**
Yes, another visit is fine	94 (55)	**55 (62)**	**8 (18)**	**31 (80)**
Yes, prefer this visit	19 (11)	**13 (15)**	**3 (7)**	**3 (8)**
Breastfeeding addressed in visit†	49 (29)	29 (33)	11 (25)	9 (23)

*Nine participants refused to answer.

†Researcher-observed (not patient self-report in post-study interview).

Percentages represent column, rather than row totals. Bolded text indicates significance at $\alpha<0.05$.