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“I just want to do everything right:” Primiparous women's accounts of early breastfeeding via an app-based diary

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Abstract

Introduction—Our objective was to describe the early breastfeeding experience of primiparous women.

Methods—Healthy, primiparous women intending to exclusively breastfeed downloaded a commercial infant feeding app during their postpartum hospitalization. Women free-texted breastfeeding thoughts and experiences through eight weeks postpartum in the app's diary. Diary content was qualitatively coded.

Results—Thirty-five participants completed diaries and were included in analyses. The overarching theme was “seeking sustainability and validation.” Mothers felt overwhelmed, anxious, and frustrated with the intensity and unpredictability of breastfeeding and inconsistent professional breastfeeding support. Ability to exclusively breastfeed was seen as a bellwether of maternal competence. Breastfeeding progress was primarily measured through external feedback (e.g., weight checks) and managed through strict adherence to provider feeding plans. As breastfeeding problems and intensity abated, women exhibited optimism and assumed greater independence in feeding decisions.

Discussion—The primiparous breastfeeding experience is fraught with internally-imposed, and externally reinforced, pressure to produce and persevere despite inadequate breastfeeding support infrastructure.

Keywords

breastfeeding; exclusive breastfeeding; primiparity; qualitative research; mobile applications

Introduction

While over 80% of U.S. mothers begin breastfeeding, rates of breastfeeding continuation and exclusivity remain low and short of Healthy People 2020 goals. Among children born in 2013, 72% were breastfeeding at all and 50% were exclusively breastfeeding at two months of age. By three months, these figures fell to 67% and 44%, respectively. Disparities in

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breastfeeding rates exist in terms of maternal race, age, education, income, geographic location, and parity.[1]

Primiparous women experience high rates of in-hospital formula use and breastfeeding problems and have lower rates of breastfeeding continuation and exclusivity than multiparous women.[1-3] One explanation for this disparity is that first-time mothers are likely to exhibit lower breastfeeding self-efficacy with limited prior breastfeeding exposures.[2] In addition, changes in breast architecture and hormonal response with prior pregnancies may contribute to a more rapid onset and greater volume of copious milk production following delivery in multiparous as compared to primiparous women.[4-6] The narratives underlying the onset, progression, and trajectory of issues impacting the primiparous breastfeeding experience have not been previously examined among U.S. women.

Methods

Design

In this study, we tracked breastfeeding behaviors and thoughts of primiparous women through eight weeks postpartum via an infant feeding mobile application (‘app’; Baby Connect). Permission to use the app for research purposes was granted by the app developers. Funding sources for development and/or maintenance of the app are not disclosed on the app's website, however no advertisements from formula companies or other businesses that could potentially impact mothers' feeding behaviors are visible to app users. The purpose of the study was to inform timing and content of a breastfeeding support intervention. Methods, reliability, and breastfeeding pattern data were previously published[7,8] and are summarized briefly below. This paper describes the qualitative content of women's app diaries related to their breastfeeding experiences from birth to eight weeks.

Sample and Setting

Between October 2014 and August 2015, we approached, screened, and enrolled a convenience sample of 61 primiparous women during their postpartum hospitalization at a regional obstetrical hospital in the northeastern United States. Women were eligible if they were at least 18 years, English-speaking, had no other children, delivered a healthy, singleton infant, owned a smartphone, intended to breastfeed exclusively 2 months, and had no conditions expected to adversely impact breastfeeding or milk supply.

Data Collection

At study entry, we collected data on maternal demographics, medical and perinatal history, breastfeeding intentions, prior breastfeeding education or exposures, and infant and maternal hospital course via questionnaires and electronic medical record abstraction. At enrollment, we also assisted women in downloading and initial use of the app on their smartphone or mobile device. Women were instructed to immediately begin documenting feeding and milk expression in the app, as close as possible to the time that it occurred. We also asked participants to free-text their breastfeeding thoughts and experiences (e.g., problems, successes, unexpected events) daily or at least once per week using the app diary. Women sent us their app data daily or weekly through eight weeks via an email summary and share

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feature (HTML format). Emailed app data was sent, received, and stored in accordance with our Institutional Review Board approved protocol to protect patient confidentiality.

Women were contacted by phone at two and eight weeks postpartum to confirm feeding status and complete additional questionnaires pertaining to feeding and mood. During these follow-up calls, we also encouraged mothers to begin, continue, or resume logging app diary entries about their breastfeeding experiences.

Analysis

We used SPSS to compile summary statistics on sample characteristics. Diary entries were abstracted into Atlas TI and grouped by postpartum week. Three authors (JD, NM, EC) read through each weekly transcript and independently coded entries line-by-line for explicit content (e.g., problems) and implicit meaning (e.g., metaphors, similes) pertaining to breastfeeding experience. Given the unique medium of an electronic diary, we made particular note of narrative structure in codes and memos, including ordering and titling of entries. Emergent themes and patterns in the data were included in memos during the coding process. The coding team, plus author SC, met regularly to discuss coding decisions and emergence of common themes. Based on these meetings, JD selectively coded each weekly transcript, with NC and EC reviewing. Codes were grouped into categories and interwoven with memos in an iterative process. Multiple techniques were utilized by the study team to assist in coding and analytic decisions, including constant comparison, questioning, the flip-flop technique, seeking negative cases, examining personal biases, drawing upon personal experiences, diagramming, and summarizing.[9] The final analysis represents the shared interpretation among all members of the study team.

Ethics

This study was approved by the University of Pittsburgh Institutional Review Board. All participants provided written informed consent. Women were compensated up to $105 for study participation, which included the cost of the app.

Results

Sample

Of the 61 enrolled women, 35 logged at least one diary entry during the course of the study and were included in the analysis. The majority of women who completed at least one diary entry were non-Hispanic White, college-educated, and intended to exclusively breastfeed at least six months (Table 1). Average maternal age was 28 years (SD: 3.9 years). Mean gestational age of infants was 39 weeks and 5 days (SD: 1 week and 3 days) and mean birthweight was 3429 grams (SD: 456 grams). At eight weeks, 79% of 34 women with available data were breastfeeding or providing breast milk, and 47% of 32 with available data were providing only breast milk.

Diary Use

The number of diary entries and participants with any diary entries declined with successive weeks (Table 2). Through week seven, six participants wrote at least one entry per week, and

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three wrote daily or almost daily entries. Entries ranged from a few lines of text to paragraphs. Aside from commentary on infant feeding, participants also wrote about sleep issues and patterns (theirs and the infant), medical concerns, infant behavior and milestones, and suggestions to improve the app.

Qualitative Findings

Diary entries included technical details of breastfeeding sessions (e.g., duration); summations of recent breastfeeding-related progress, problems, and events; observations and interpretations of infant breastfeeding cues and patterns; comparisons to others' breastfeeding experiences; conditions and plans for seeking outside assistance versus self-management of breastfeeding problems; impact of breastfeeding issues on emotional and psychological wellbeing and relationships; reflections on societal attitudes and support for breastfeeding mothers; and plans and hopes for breastfeeding maintenance. The overarching theme that encompassed the early breastfeeding experience of primiparous women was *seeking sustainability and validation,* with subthemes including *the breaking point, lessening the burden, deference to external authority, blame and absolution,* and *tentative confidence*.

Seeking sustainability—Particularly in the first weeks post-birth, women expressed surprise, uncertainty, frustration, and anxiety regarding infant satiety at-breast, pain with feedings, and the seemingly relentless nature of frequent feeds; the frequency of feeds became particularly challenging during periods perceived as growth spurts and in the evening and overnight period when infants tended to "cluster feed" and mothers were most fatigued.

> This week we experienced long evening cluster feeding, engorgement, and I'm pumping more. I'm still breastfeeding around the clock as needed. At times I'm ready to give up! (Participant 18, Week 3)

Mothers yearned to regain a sense of normalcy, routine, and control; they actively sought workarounds, including pumping and bottlefeeding breast milk, to achieve predictability in feeding routines.

> Supplemented with some pumping. This kid will not wake up to eat! I'm feeling very frustrated. He had a lot of trouble waking up for the feeding so we started late. (Participant 16, Week 2)

> Trying to cluster feed before bed time to help [infant] sleep longer in the night. She's so small her stomach can't fit much milk but here's hoping it will work. (Participant 32, Week 2)

The breaking point—Adequate sleep and opportunities for self-care were tipping points for the escalation and de-escalation of problems, as mothers despaired at their physical and mental exhaustion or expressed hope that they could withstand breastfeeding under evolving circumstances. Women alternated between frustration and a sense of powerlessness, self-admonishment over their frustration, and relief when issues seemed to temporarily abate.

> Frustrated. So apparently the cluster feedings have started for us. My husband even got upset about it last night which surprised me. He has been supportive, but last

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> night was our breaking point. Before we had looked into it, we were both blaming my milk or something I was doing. It was a rough night emotionally and due to lack of sleep. I'm not sure which one is harder at this point… (Participant 34, Week 1)

Mixed messages and lack of accessible breastfeeding support from the medical community contributed to self-diagnosis and management of issues, adoption of common but erroneous breastfeeding beliefs (Table 3), anxiety, and escalation of problems.

> Right breast bleeding, even with nipple shield. Stopped nursing on that side. Tried to find 24 hour helpline, but couldn't. Concerned she swallowed blood. (Participant 8, Week 1)

> …I developed visible pinkish-ness [and tenderness] across most of my breasts and became very scared it was an infection. I called [pediatrician], who asked me to call [breastfeeding help center], but it was closed. I called [a hospital-based lactation center], but only received mixed messages from them since they were confused why I was pumping and using formula at the time. All I wanted to know was whether the pinkish-ness might be illness or just irritation. I eventually had impromptu assessment and discussion with [breastfeeding help center], who looked at my breasts and decided since pinkness was all over it was likely not mastitis, just inflammation from milk coming in. It would have been good to know this was possibility—most of what I googled online was not helpful enough to distinguish if pinkness was normal." (Participant 7, Week 1)

Lessening the burden—When partners and family provided emotional support or shared in the "work" of feeding, women adopted a more optimistic outlook on their capacity to continue breastfeeding and viewed breastfeeding as a shared, rather than exclusively maternal, responsibility.

> …It's team work between my husband and I to keep him up [to breastfeed]. (Participant 47, Week 1)

> … I see a lot of joy out of [baby's] dad when he gets to [feed a bottle of expressed milk]. And it does help me have a few minutes to myself to shower, etc. I can do this!! (Participant 34, Week 6)

As the intensity of breastfeeding problems in the first weeks abated, women looked to recoup opportunities for personal time and self-care. In this vein, women continued to search for ways to impose order and predictability in feeding frequency and to integrate different options for providing breast milk outside the home.

> …Having extra [expressed] milk on hand is really nice and is able to give me some freedom, which is lowering my anxiety. (Participant 2, Week 8)

Seeking Validation

Perceived breastfeeding success was construed by most participants as exclusive provision of breast milk, while a minority of participants prioritized the breastfeeding relationship and infant's overall wellbeing over exclusive breastfeeding (e.g., "Breast feeding and formula

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combo works best for him! Everything is going well! He's a happy and good boy!”). Breastfeeding success was inextricably tied to maternal self-worth and identity, and as such, mothers experienced intense pressure to avoid “failure” (formula supplementation, stopping breastfeeding) and the appearance or admission of difficulties.

> I've been breastfeeding since my son was born and it's been tough, but he just doesn't wanna latch on…I feel like [breastfeeding] keeps getting harder and harder. But I keep trying, [although] I feel like [infant] likes formula better than breast. (Participant 4, Week 1)

> I'd be a little upset if we are told that I'll need to supplement with formula, I'll feel like I'm letting [my baby] down somehow…(Participant 9, Week 4)

> [Mothers] don't want to say how difficult or hard [breastfeeding] is for fear that other people will think they don't love their baby or that they don't enjoy taking care of their baby. (Participant 9, Week 8)

Breastfeeding success (and maternal confidence) was almost entirely adjudicated (and re-adjudicated) through point-in-time weight checks at the pediatrician office, pediatrician feedback on adequacy of breast milk volume, and others' informal observations of infant weight gain (e.g., “my mom came back to visit us again…she said that he looks bigger to her!”). This external validation carried more import than mothers' own day-to-day observations of infant satiety and behavior.

> His second weight check was 7 lb and 12 oz. That was two days later after doing a cycle of breast feeding, pumping and formula. The doctor was very pleased. (Participant 47, Week 1)

> Nervous for today's [pediatrician] appointment. We have [infant's] weight check appointment and I'm nervous to find out how much weight he has gained back. (Participant 9, Week 4)

Deference to external authority—Women's early reliance on external validation of breastfeeding efforts was also reflected in deference to external authority for initial breastfeeding management. Even for women in which breastfeeding was proceeding without complications (e.g., excessive weight loss), participants recounted pediatrician breastfeeding counseling using prescriptive, dogmatic language.

> Difficult period as we followed schedule described yesterday [pediatrician recommendation for formula supplementation]. Very tiring and constantly scared he wouldn't put weight back on and we would have to continue formula, which we didn't want to do. Also frustrated [because] my milk came in and I was extremely engorged. I wanted to just breastfeed to relieve engorgement, but felt stuck. Required [by pediatrician] to use formula and pump milk. (Participant 7, Week 1)

> I started off breast feeding in the hospital and my son had some problems latching on. Because of this he wasn't getting as much food as he needed and I was ordered by my pediatrician to supplement formula until my milk came in. (Participant 49, week 1)

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In describing their interactions with lactation consultants, mothers tended to use language that indicated a greater sense of shared decision-making around feeding plans.

> At lactation consultant appointment. Goal to nurse 2-3× day, alternating with pumping 2-3× day (and at least 1× night), and supplementation with formula. Feel much better that we have a plan. Also suggested taking fenugreek to increase milk supply. (Participant 8, Week 2)

Blame and absolution—When breastfeeding success was not immediate, or when setbacks occurred, self-trust plummeted. Some women conveyed a sense of anger that they had not been prepared by the medical establishment or others regarding potential breastfeeding issues and sought absolution from their own sense of culpability.

> …[The pediatrician and lactation consultant] confirmed my technique is correct, so at this point my problems are mostly due to [son's] latch and his ability to suck correctly…at least I know it's not due to my own inability to breast-feed correctly." (Participant 7, Week 3)

Other women viewed breastfeeding problems as a personal failure related to their own ineptitude or physiology, rather than a constellation of potential contributory factors, including infant characteristics and disposition, professional and familial support, and societal accommodations.

> So the only time my chest is fully full and satisfying for my daughter is in the morning…I don't know if it's something I'm doing wrong with my diet or it's just my body not being able to keep up with her appetite. (Participant 28, Week 4)

Tentative confidence—By 5-6 weeks, most women who continued to breastfeed had overcome initial breastfeeding difficulties, expressed a tentative confidence in themselves and their ability to determine infant satiety, and began to exhibit more independent decision-making with regard to breastfeeding and infant care. They related breastfeeding plans for the future, including strategies for managing breastfeeding upon return to work (e.g., introducing bottles, integrating pumping into their breastfeeding routines, implementing feeding "schedules"), and reflected positively back on their experience.

> Things are finally starting to look up from a breastfeeding perspective. I am healing well and my nipples finally feel normal again. It was a long while but I'm glad I stuck it out! [Infant] is latching better also. Her and I are finally on the same page! (Participant 22, Week 8)

> Being a new mom, I just want to do everything right and I am realizing that I need to be more confident in myself. [My son] is a happy baby and if he wasn't getting what he needed [in terms of sufficient milk], I would see signs. (Participant 53, Week 8)

Some women still voiced frustration over frequent feeding during growth spurts and lack of public support of breastfeeding mothers.

> We took a day trip today to a restaurant and then the zoo…I wasn't able to have enough [expressed] milk in bottles for the whole day so I went in knowing I would

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> have to [breast]feed him…we found some abandoned building [in which to breastfeed]…ironically another lady found this place too. It really opens my eyes to how unsupportive society is for nursing moms. It's sad. We hear from everywhere how [breastfeeding] is the best thing for the baby but what do they want us to do? Stay home for 6 months? They don't make it easy. (Participant 34, Week 6)

Discussion

This research highlights the externally generated and internally experienced pressure among primiparous women to produce enough milk and sustain the physical and emotional demands of breastfeeding, while living in a culture largely unsupportive of breastfeeding mothers. The themes and subthemes described here are similar to other qualitative accounts of breastfeeding experiences of first-time mothers in other developed countries; these studies also cite the influence of breastfeeding experiences on development of maternal identity,[10,11] concerns about painful breastfeeding and milk volume,[10,12] the ubiquity of inadequate, conflicting breastfeeding support,[10,13] and women's reliance on external reassurance of adequate milk transfer during breastfeeding.[14] Our study adds to the existing literature by capturing breastfeeding perspectives of U.S. women as they evolved over two months postpartum. By utilizing an electronic diary medium with only a generic initial prompt, the potential for recall and social desirability bias that can compromise retrospective evaluations of breastfeeding was minimized.

Provider Barriers and Interventions

Notable among our findings was the preoccupation with weight checks and absolute deference to the pediatric provider's breastfeeding opinion and proposed feeding plan; at times, this was to the detriment of an otherwise uncomplicated breastfeeding course. Others have observed this phenomenon to some degree and attribute its occurrence to the rise of the “techno-medical discourse” on breastfeeding, which emphasizes measurement of breastfeeding (duration, frequency, volume) and undermines women's “embodied” breastfeeding knowledge (observations of satiated infant, feeling of emptied breasts).[13-15] In effect, this positions provider as breastfeeding expert, rather than mother, and places primary value on breast milk, rather than the breastfeeding relationship. Potential consequences of these perspectives, which we observed in our data, include maternal dependence on providers who may be unqualified or unavailable to provide breastfeeding guidance and impaired maternal coping when the specter of formula supplementation or perceived inadequate milk volume arises.[16,17] Accordingly, when providing a feeding plan, providers should consider their own breastfeeding training and expertise, the mother's goals for breastfeeding and her support system, the degree and likelihood of improvement from proposed interventions, and availability of other qualified breastfeeding resources.[18,19] For mothers in exhausted and emotionally-fraught states, breastfeeding counsel has the potential to be misconstrued; in these cases, a plan for ensuring comprehension and timely follow-up is indicated.

Although we did not directly observe it in our data, providers may also inadvertently reinforce maternal doubts and devaluate the developing breastfeeding relationship through

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lines of questions which focus mainly on frequency and duration of breastfeeding sessions.[15] These data points are in fact less reliable indicators of adequate milk transfer than maternal observations of infant behavior, infant output and weight gain, and subjective maternal evaluations of breast changes before and after feedings.[20] The latter signs, with the possible exception of infant weight change, can be easily taught to mothers—positioning her as "expert" on her infant and her body and buoying breastfeeding confidence.

Legislative/Societal Barriers and Interventions

Women's diary entries also demonstrate the double bind that subsists between societal expectations and societal support for breastfeeding women. In comparison to other eras and cultures, postpartum women in the U.S. today receive less familial, community, and institutional assistance to balance breastfeeding, childcare, and household and professional responsibilities. This has implications for the physical and mental health of women and children and the welfare of the family unit.[21,22] Given the well-established health benefits of breastfeeding, there are opportunities for those who care for women and children to advocate for legislation that supports breastfeeding families. This includes paid parental leave policies, continued and enhanced support for lactation services and equipment (e.g., breast pumps) provided under the 2010 Affordable Care Act,[23] rights of breastfeeding mothers in the workplace and public spaces, and consistent standards and accommodations for breastfeeding in childcare facilities. There are also opportunities to better integrate lactation training into medical education[24] and evidence-based breastfeeding policies and lactation experts into medical delivery models. For example, internationally board-certified lactation consultants (IBCLCs) and Baby-Friendly Hospital Initiative practices have demonstrated effectiveness in increasing initiation, exclusivity, and duration of breastfeeding in the U.S. [25,26]

Limitations and Future Directions

Broad applicability of our findings is limited by our relatively homogeneous sample of mostly White, economically privileged U.S. women from a single hospital system. There was also less representation from women who used formula in the hospital, intended to breastfeed for a shorter duration, or those who returned to employment prior to eight weeks. Future research is indicated to prospectively investigate the breastfeeding experience and opportunities for breastfeeding support among more diverse groups of women over longer periods.

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Table 1

Comparison of sample characteristics (n and %) of those completing at least one versus no app diary entries with chi-square test.

Characteristic	Diary Entries		p
	One or more	None	
Totals (n=61)	35 (57)	26 (43)	
Married	27 (77)	14 (54)	0.06
Education			
High school diploma	3 (9)	7 (27)	
Some college or vocational program	8 (23)	6 (23)	0.27
Bachelor's degree	13 (37)	7 (27)	
Post-graduate degree	11 (31)	6 (23)	
Race			
White/Caucasian	29 (83)	16 (62)	
Black/African American	3 (9)	6 (23)	0.16
Other	3 (9)	4 (15)	
Hispanic ethnicity	2 (6)	0 (0)	0.22
WIC recipient	8 (23)	9 (35)	0.31
Current or recent smoker *	4 (11)	7 (27)	0.12
Planned return to work **			
No return or uncertain	5 (14)	7 (27)	
5-8 weeks	6 (17)	7 (27)	0.29
9-12 weeks	19 (54)	8 (31)	
13 weeks-1 year	5 (14)	4 (15)	
Planned duration of any breastfeeding			
Unsure	1 (3)	6 (23)	
6 months	10 (29)	8 (31)	**0.04**
>6 months	24 (69)	12 (46)	
Planned duration of exclusive breastfeeding (n=60)			
Unsure	5 (14)	9 (36)	
< 6 months	6 (17)	2 (8)	0.12
6 months	24 (69)	14 (56)	
Formula use in hospital	9 (26)	14 (54)	**0.03**
Lactation consult in hospital	28 (80)	20 (77)	0.77
Delivery method			
Vaginal	24 (69)	18 (69)	0.96
Cesarean section	11 (31)	8 (31)	

*Smoked during pregnancy or in 12 months prior to pregnancy;

**No participants planned to return to work prior to 5 weeks postpartum

WIC= WIC=Women, Infants, and Children Special Supplemental Nutrition Program; proxy measure of income

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Table 2

Diary entries by week.

	Week							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Number of participants with diary entries	26	20	21	15	10	12	11	7
Total number of entries (all participants)	135	68	56	48	34	37	29	19

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Table 3

Common breastfeeding misunderstandings and myths expressed by mothers in electronic diaries.

Misunderstanding/Myth	Diary Example(s)	Counterpoints for counseling *(Wambach & Riordan, 2016; Lawrence & Lawrence, 2016)*
Formula supplementation should be used in the case of volume-related infant morbidities, even when breast milk is available in adequate quantities	*Immediately after feeding him my right [breast] started leaking so I pumped. Due to his jaundice I've been advised to add formula so I'm going to add it to his next feeding and attempt a bottle. (Participant 48, Week 1)*	• Breast milk is nutritionally and immunologically superior to formula • Formula can be used as a supplement if it is determined that your baby is not transferring milk well at the breast or there is not enough breast milk to satisfy your baby
Frequency and duration of breastfeeding sessions are reliable indicators of adequate milk intake	*Still only feeds 10 to 15 minutes. Can't get both breasts. (Participant 56, Week 3)* *He still usually feeds for 10 min or less, which did concern me because my books have said babies his age usually feed 10-30 min per breast. (Participant 53, Week 8)*	• Watch your baby for signs of hunger and satiety, not the clock • If your baby seems to feed constantly and never seems satisfied, this likely indicates he/she is not getting enough milk • It's normal for some feedings to be longer or shorter than others; breastfed babies take in the amount of milk they need at the moment • Babies generally become more efficient at breastfeeding as they grow and can often take in a significant quantity of milk within minutes • Many babies are satisfied after taking only one breast; whether your baby takes one or both breasts is dependent on your individual breast milk capacity (unrelated to breast size), stage of lactation, time of day, and your baby' shunger
Diurnal fluctuation in milk volume (e.g., less milk in evening) is a sign of insufficient milk volume	*The past day or two I have felt my breasts were pretty empty by the feedings at the end of the day, after 6-8pm or so. When [son] is nursing I can't feel much when I compress my breasts and it is not clear if he is swallowing very much. I'm concerned this means my milk supply is not adequate. (Participant 7, Week 4)*	• You should expect milk volume to be less abundant toward evening, particularly if your baby is going through a growth spurt or "cluster feeding" late in the afternoon; these events empty the breasts well, and your milk production may temporarily struggle to keep up with demand • Milk supply gets a boost from the hormone prolactin overnight, so you can expect available milk to replenish overnight and into morning • Expect milk supply to increase to meet demand within a couple days, as emptier breasts get a hormone signal to ramp up production • Switch breasts when you no longer hear swallows; use breast compressions while feeding to increase milk transfer • Consider hand-expressing or pumping milk once per day when supply is most abundant (e.g., morning), and use as a supplement during evening cluster feedings
Infant gastrointestinal issues are related to mother's diet while breastfeeding or composition of breast milk	*He was very fussy & gassy tonight. Wonder what I ate that bothered him?!?! (Participant 16, Week 3)*	• Infant gas and fussiness are common and usually unrelated to the diet of a breastfeeding mother or breast milk composition • An oversupply of breast milk may contribute to fussing; if you suspect this, try using one breast per feeding to increase consumption of high-calorie "hind milk"
Breast milk does not satisfy infants as well as formula	*Formula as opposed to breast milk-seems like she's more and more hungry with the breast milk. It just doesn't fill her up for some reason. So every hour I'm forced to feed her*	• Breast milk is digested more quickly and easily than formula • Breastfed infants tend to self-regulate their intake better than bottle-fed infants—that is, they will take

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	instead of every 2 or 3. (Participant 28, Week 3)	as much milk as they need and stop when they are full; formula fed babies tend to be overfed • Because of these reasons, it is normal for breastfed infants to feed more often and in a more irregular pattern (e.g., cluster feeds) compared to formula-fed infants • As your baby's stomach grows, he or she will be able to take in more breast milk at a feeding and may go longer between feeds
Waiting longer to empty breasts will allow milk to accumulate, resulting in a greater milk volume	*Haven't pumped in a while because my chest hasn't been feeling full for me to but I am going to try today and see how many ounces I can get out. (Participant 28, Week 3)*	• Breast milk operates on a supply-demand principle: the more milk taken out, the more you make • The best way to make more breast milk is to empty breasts as fully as you can, as often as you can • Waiting longer than you usually do to breastfeed or pump/express milk will cause milk to build up and temporarily result in increased milk output; however, fuller breasts send a message to your body to decrease milk production. If you are not consistently emptying your breasts every few hours, your milk supply will down-regulate
Milk let-down sensations are indicative of potential problems	*For the past couple of days I have noticed that I'm having an uncomfortable pins and needles feeling again when my milk is letting down. I had the same twinges when I first started breastfeeding, but they went away after a few days. They just started back up in the past day or two. It happens while nursing and goes away after a few minutes. I'm not having any problems with engorgement or swollen breasts, so I'm not sure what is causing it. If it doesn't go away in the next couple of days I'll call my doctor to talk more about it. (Participant 9, Week 4)*	• When milk is "letting down," mothers can experience a range of feelings in their breasts, including tightening, pins and needles, tingling, and occasionally nausea, headaches, or feelings of sadness • These feelings, for the most part, accompany the release of the hormone oxytocin, which causes the muscles around the milk cells in your breast to tighten and expel milk • You may feel multiple let-downs in the same feeding session • As your baby gets older, you may notice these sensations becoming less intense or going away altogether • If you experience negative emotions around the time of let-down, this could be a hormonal condition known as "D-MER" or dysmorphic milk ejection reflex; if this happens to you, should speak with a breastfeeding expert
Symptoms of engorgement are indicative of potential problems	*Milk came in yesterday…I didn't realize how big/firm it would make my breasts and was worried at first about engorgement. Did some online research and found the hard lumpiness and pain from it should only last a few days. Wish that's something I had known about to better prepare for. (Participant 32, Week 1)*	• Many mothers will experience "engorgement" when milk comes in around 2-5 days postpartum • Engorgement signs and symptoms include sore, heavy, and leaking breasts; breasts may also be warm, red, and/or lumpy • Engorgement is different than mastitis (breast infection); with mastitis, women usually experience fever and generally feel unwell • Engorgement can make latching difficult; you can soften breasts by hand-expressing or massaging breasts a few minutes before feeding • Engorgement can be uncomfortable but it is temporary and usually resolves on its own within 48 hours; take pain medicine prescribed by your doctor, breastfeed often, change saturated breast pads regularly, and wear a supportive bra with no underwire