

Influence of Experiences and Perceptions Related to Breastfeeding One's First Child on Breastfeeding Initiation of Second Child

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Abstract *Introduction* Multiparas tend to initiate breastfeeding less than primiparas. While mothers often repeat the feeding method used for their first child with their second child, the way in which experiences and maternal perceptions related to breastfeeding one's first child may influence breastfeeding initiation with a second child remain underexplored. The objective of this study was to investigate whether physiological or social experiences, and related psychological factors, reported at the end of breastfeeding one's first child influence breastfeeding initiation with a second child. *Methods* Data from 174 multiparas who participated in the Infant Feeding Practices Study II, breastfed their first child, and completed the Year 6 Follow Up were analyzed using exact logistic regression. *Results* Mothers who reported experiencing trouble with the first baby's suck or latch had lower odds of initiating breastfeeding (OR 0.15, 95% CI 0.04–0.56) than those who did not report this experience, whereas mothers who agreed that breastfed children are less likely to become obese had greater odds of initiating breastfeeding with a second child (OR 11.49, 95% CI 1.56–513.18) than those who did not

agree. *Discussion* Efforts to facilitate breastfeeding initiation among multiparas may consider mothers' previous experiences and beliefs associated with breastfeeding. Strategies to facilitate initiation may focus on addressing barriers mothers experienced while breastfeeding their first child and increasing awareness about how breastfeeding may prevent childhood obesity. Future research should explore how such approaches may impact breastfeeding outcomes with subsequent children.

Keywords Breastfeeding · Multiparas · Response efficacy · Experiences

Significance

What is already known on this subject? Multiparas tend to repeat infant feeding methods with subsequent children. However, compared to first-time mothers, those with more than one child are less likely to initiate breastfeeding. Multiparas who do initiate tend to breastfeed for longer durations than first-time mothers, suggesting great public health benefits if initiation is facilitated.

What this study adds? This study increases our understanding of the way in which previous breastfeeding experiences and associated maternal perceptions influence breastfeeding initiation among multiparas. Barriers in the early breastfeeding experience and perceptions of the health benefits of breastfeeding to reduce childhood obesity are related to initiation with a second child.

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Introduction

Breastfeeding is known to enhance infants’ immunologic defenses, reduce the risk of some cancers and chronic diseases for mothers (American Academy of Pediatrics 2012), and provide economic benefits to the mother, child, and nation (Bartick and Reinhold 2010). While breastfeeding initiation rates reached 81.1% in the United States in 2013 (Centers for Disease Control and Prevention 2016), many children are still never breastfed despite the current clinical recommendations of 6 months of exclusive breastfeeding and continued breastfeeding through at least the first year (American Academy of Pediatrics 2012). There is also a notable decrease in breastfeeding initiation with increasing birth order; multiparas have nearly twice the odds of not initiating breastfeeding with a second child compared to their first (Sutherland et al. 2012).

Maternal perceptions (i.e., perceived satisfaction, self-efficacy, response efficacy, attitudes) frequently considered as modifiable factors contributing to behavior change in such theories as the Theory of Planned Behavior (TPB) (Ajzen 1991) and the Extended Parallel Process Model (EPPM) (Witte 1992), are also important for breastfeeding behavior (DiGirolamo et al. 2005; McMillan et al. 2008). The TPB posits behavior is predicted by one’s intention to perform the behavior, positive attitudes toward the behavior, beliefs that others who are important endorse the behavior, motivation to comply with these important referents, and perception of control over the behavior (Ajzen 1991). Consistent with the TPB, evidence shows that mothers who intend to breastfeed (Kools et al. 2005) and have positive breastfeeding attitudes (Wambach and Koehn 2004) are more likely to initiate breastfeeding. In addition, measures of breastfeeding self-efficacy have been shown to predict initiation (Dennis 1999). Perceived breastfeeding self-efficacy, or a mother’s belief that she will be able to organize and carry out the necessary actions to breastfeed her child (McCarter-Spaulling and Gore 2009), is a key construct in the EPPM along with response efficacy, a perception that breastfeeding leads to positive health outcomes. Generally, mothers who agree with the health benefits of breastfeeding are more likely to initiate breastfeeding than those who disagree (Kornides and Kitsantas 2013).

Most studies showing the importance of maternal perceptions on breastfeeding outcomes are not specific to multiparous mothers. However, evidence shows a disparity in initiation rates between first-time mothers and those with multiple children. Although a study in Switzerland found multiparas may initiate breastfeeding to a greater degree than primiparas (Gubler et al. 2013), more studies show that multiparas may be less likely to initiate than primiparas, including those conducted in the United Kingdom (Bick et al. 1998), United States (Li et al. 2002; Ryan et al.

2002), and Ireland (Leahy-Warren et al. 2014). It has been shown that multiparas who do initiate tend to maintain the behavior for longer durations than primiparas (Hackman et al. 2015). These reports suggest facilitating breastfeeding initiation among multiparas may bring great health and economic benefits to mothers and their children.

Multiparas are unique compared to primiparas because they have infant feeding experience with their previous children that may shape perceptions and influence intention or behavior with subsequent children (Leahy-Warren et al. 2014; Montano and Kasprzyk 2008). Mothers often repeat the infant feeding method used for their first child with their second child (Phillips et al. 2011), and longer prior breastfeeding duration positively influences subsequent breastfeeding behavior (Bai et al. 2015). The observed decrease in breastfeeding initiation among multiparas has been attributed to a previous unsuccessful or negative breastfeeding experience (Bick et al. 1998; Sutherland et al. 2012). However, we have little understanding of the role of maternal perceptions related to breastfeeding one’s first child, which may be more amenable to change than past behaviors, on breastfeeding initiation with subsequent children. This current study evaluates the role of factors related to first breastfeeding experiences (i.e., physiological/social experiences, duration, perceptions, intention to breastfeed second child) reported soon after ending breastfeeding the first child (a time representing a potential “teachable moment” or point of intervention to prepare mothers for breastfeeding future children) on breastfeeding initiation with the second child (see Fig. 1).

Methods

Data from the Infant Feeding Practices Study II (IFPS II), a longitudinal study of women from late pregnancy through their infant’s first year of life conducted by the U.S. Food and Drug Administration in collaboration with the CDC between May 2005 and June 2007 (Fein et al. 2008), and

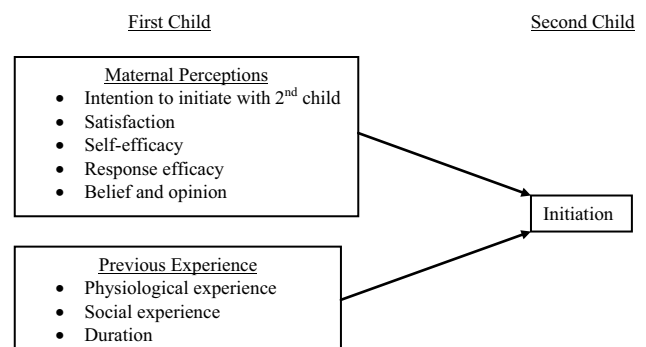


Fig. 1 Factors related to breastfeeding initiation with one’s 2nd child

the Year 6 Follow Up (Y6FU) were used in this study. IFPS II data were collected at 12 time points through the baby's first year. Participants were initially recruited via a nationally distributed consumer opinion panel of more than 500,000 households and the final IFPS II sample consisted of 3033 respondents who completed the first postpartum questionnaire (Fein et al. 2008). Those enrolled in the IFPS II were re-contacted in 2012 for the Y6FU, and 1542 mothers of 6-year-old children participated (Centers for Disease Control and Prevention 2014). This de-identified, self-report data was provided by the CDC and the Institutional Review Board at the University of Iowa determined the study was not classified as human subjects' research.

The current analyses included those who indicated being a first-time mother (no prior births or adoptions) and having ever breastfed or fed their baby breast milk on the IFPS II questionnaires (N = 762). Given the focus of this study in understanding the impact of first time breastfeeding experiences on subsequent initiation, only those with previous breastfeeding experience were included. The breastfeeding experience questions were only asked of those who stopped breastfeeding their first child during the IFPS II study period; thus, the final study sample included those providing information about breastfeeding experiences and perceptions, and infant feeding information about at least one subsequent child on the Y6FU questionnaire (N = 174).

Measures

Initiation of Breastfeeding with Second Child (Y6FU)

Mothers were asked: "How many children have you given birth to after your 6-year-old? (Don't count stillbirths)" and "How old was this child when you completely stopped both breastfeeding and pumping milk for him/her?" An outcome variable was created indicating breastfeeding initiation (1 = yes, 0 = no), if the mother indicated any amount of breastfeeding for her second child born after the 6-year old.

Maternal Perceptions Regarding Breastfeeding First Child (IFPS II)

When mothers indicated stopping breastfeeding their first child in the survey, they were asked about their future *breastfeeding intention*: "How likely is it that you would breastfeed again if you had another child?" (1 = Not at all likely to 5 = Very likely). Due to the highly skewed distribution, the variable was dichotomized to 1 = very likely versus 0 = any other response. Also at the time closest to breastfeeding cessation, the measure of *satisfaction* with breastfeeding was derived, "How do you feel about the experience of having breastfed your baby?" (1 = Disliked very much to 5 = Liked very much). On postnatal

questionnaires for months 2, 5, and 7, each mother indicated how long she wanted to continue breastfeeding, and was then asked "How confident are you that you will be able to continue to breastfeed until the baby is the age you marked?" (*Self-efficacy* 1 = Not at all confident to 5 = Very confident). Satisfaction and breastfeeding self-efficacy were considered as continuous variables in analysis.

In the month 7 questionnaire, mothers were asked how much they agree/disagree with four statements regarding the expected outcomes of breastfeeding, or *response efficacy*, (1 = Strongly disagree to 5 = Strongly agree): "If a baby is breastfed, he or she will be less likely to get (ear infections, respiratory illness, diarrhea)", and "If a child was breastfed, he or she will be less likely to become obese." Responses were coded such that 1 indicates strongly agree or somewhat agree and 0 indicates any other response. Also in month 7, mothers indicated how strongly they agree or disagree with the statement "Infant formula is as good as breast milk" (*belief about breast milk*). Responses were coded such that 1 indicates strongly disagree or somewhat disagree and 0 indicates any other response. *Opinion* about breastfeeding was measured in month 3 by asking: "which of the following is closest to your opinion? The best way to feed a 3-month old baby is: breastfeeding, a mix of both breastfeeding and formula feeding, formula feeding, breastfeeding and formula feeding are equally good ways to feed a baby." Responses were coded such that 1 indicates breastfeeding and 0 indicates any other response.

Physiological and Social Experiences of Breastfeeding One's First Child (IFPS II)

Mothers identified how important 32 reasons were to their decision to stop breastfeeding (1 = Not at all important to 4 = Very important). The experiences that are physiological or social in nature were dichotomized (1 = somewhat or very important and 0 = not at all or not very important) for analysis. Four variables were created by combining two items that were highly correlated ($r > 0.45$) and were given a score of 1 if the mother indicated either or both of the correlated reasons as being somewhat or very important. A total of 11 physiological and 5 social experience variables were considered as independent variables in the analyses (see Table 3 for a list of experience variables). The sum of physiological experiences, sum of social experiences, and overall sum were also created. Because prior breastfeeding duration may influence subsequent breastfeeding (Bai et al. 2015), breastfeeding duration (weeks) with one's first child is also considered as a continuous independent variable related to experience.

Demographic Covariates

Sociodemographic factors were dichotomized due to lack of variability in the sample. Factors previously shown to be associated with breastfeeding initiation or non-initiation such as Caucasian race (Chin et al. 2008) (race: 1 = white, 0 = not white), higher level of education (Chin et al. 2008; Ryan and Zhou 2006) (education: 1 = more than high school, 0 = high school or less), higher income (Chin et al. 2008; Ma et al. 2014) (household income: 1 = less than median income, 0 = median income or more), being married (Chin et al. 2008) (marital status: 1 = married, 0 = not married), and expecting to work full time (Mandal et al. 2010) (employment status: 1 = employed for self or other either full or part time, 0 = not employed) were considered as covariates in the analyses.

Analyses

Data from the IFPS II and Y6FU samples were matched and the responses from participants were analyzed using SAS version 9.3. Descriptive statistics of the variables representing key study factors were evaluated. Separate exact logistic regression models were used to assess the influence of each group of factors regarding breastfeeding one's first child (i.e., maternal perceptions, experiences) on breastfeeding initiation with a second child. Exact logistic regression is a reliable alternate to the maximum likelihood method for models with smaller sample sizes (Mehta and Patel 1995). A full multivariate model was created including all of the factors that were significantly associated with the outcome in bivariate evaluations and a final model was derived by backward elimination.

Results

One hundred seventy-six mothers who initiated breastfeeding with their first child were included in analysis and 150 (86%) indicated initiating breastfeeding with their second child. The majority of mothers was married, employed, earned more than a high school education, and identified as white. Median household income was between \$60,000 and \$74,999 (U.S. dollars). None of the demographic variables were significantly associated with breastfeeding initiation with a second child in bivariate analyses, thus not carried through in further analyses. Participant characteristics and bivariate association with breastfeeding initiation with a second child are presented in Table 1.

Table 1 Participant characteristics and bivariate association with breastfeeding initiation with second child (N = 174)

Demographics	N	Freq. (%)	OR	(95% CI)
Marital status	159			
Married	140	(88.05)	1.80	(0.39–6.55)
Education	160			
More than HS (some college or more)	140	(87.50)	2.40	(0.60–8.16)
Employment	159			
Working full or part time	104	(65.41)	0.73	(0.22–2.15)
Race ^a	160			
White	140	(87.50)	0.67	(0.07–3.16)
Household income	154			
Less than median ^b	63	(40.91)	1.00	(0.37–2.85)

^aBlack or African American (N=7), Asian (N=8), Other (N=5), Spanish or Hispanic origin (N=6)

^bMedian household income was between \$60,000 and \$74,999

Maternal Perceptions

The results of bivariate associations between maternal perceptions related to breastfeeding one's first child and initiation of breastfeeding a second child are shown in Table 2. Of the 160 mothers who reported their intention to breastfeed future children, 75% indicated they would be "very likely" to breastfeed again if they had another child and this intention was associated with more than five times the odds of initiating breastfeeding compared to mothers who did not indicate being very likely to initiate (OR 5.44, 95% CI 1.59–20.11). Also, for every unit increase in satisfaction with breastfeeding one's first child, the odds of initiating breastfeeding with a second child increased (OR 2.02, 95% CI 1.26–3.29). Other perceptions significantly associated with greater odds of initiating breastfeeding with a second child include holding the opinion that breastfeeding is the best way to feed a 3 month old baby (OR 10.18, 95% CI 2.82–56.07), disagreeing that infant formula is as good as breast milk (OR 6.06, 95% CI 1.84–26.18), agreeing that babies who are breastfed are less likely to get ear infections (OR 8.78, 95% CI 2.64–38.14), respiratory illnesses (OR 7.38, 95% CI 2.23–31.98), diarrhea (OR 4.76, 95% CI 1.29–26.47), and children who were breastfed are less likely to be obese (OR 22.01, 95% CI 3.32–939.13).

Physiological and Social Experiences

Mothers' breastfeeding duration with the first child averaged 22.02 weeks, with a median of 16.50 weeks. Bivariate results indicate for each additional week of breastfeeding the first child, the likelihood of initiation with a second child increased by 11% (OR 1.11, 95% CI 1.05–1.18).

Table 2 Bivariate models: maternal perceptions related to breastfeeding first child in predicting breastfeeding initiation with second child

Maternal perceptions	Mean frequency	(SD) percent	Bivariate	
			OR	(95% CI)
Intention to breastfeed 2nd child (N = 160) ^a	120	75.00	5.44**	(1.59–20.11)
Self-efficacy (N = 128)	4.07	(1.10)	1.20	(0.53–2.40)
Satisfaction (N = 160)	4.29	(0.99)	2.02**	(1.26–3.29)
Opinion: breastfeeding is the best way to feed a baby (N = 158) ^b	85	53.80	10.18***	(2.82–56.07)
Belief: disagree formula is as good as breast milk (N = 148) ^c	79	53.38	6.06**	(1.84–26.8)
Response efficacy: ear infections ^d (N = 148)	90	60.81	8.78***	(2.64–38.14)
Response efficacy: respiratory illness (N = 148) ^d	85	57.43	7.38***	(2.23–31.98)
Response efficacy: diarrhea (N = 147) ^d	59	40.14	4.76*	(1.29–26.47)
Response efficacy: obesity (N = 148) ^d	68	45.95	22.01***	(3.32–939.13)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

^a“Very likely” intention versus any other response, measured shortly after cessation of breastfeeding one’s first child

^bBreastfeeding is best versus formula, a mix of breastfeeding and formula, and breastfeeding and formula are equally good was to feed a 3 month old baby

^cDisagree (strongly or somewhat) that infant formula is as good as breast milk versus any other response

^dAgree (strongly or somewhat) versus any other response

Table 3 Bivariate models: experiences related to breastfeeding first child and breastfeeding initiation with second child (N = 161)

	Mean frequency	(SD) percent	Bivariate	
			OR	(95% CI)
Previous breastfeeding duration (weeks, N = 174)	22.02	(18.03)	1.11***	(1.05–1.18)
Physiological experiences				
Baby had trouble sucking or latching	44	27.33	0.14***	(0.03–0.46)
Baby began to bite	25	15.53	2.96	(0.42–130.39)
Breasts were overfull or engorged	17	10.56	0.47	(0.11–2.85)
Breastfeeding was too tiring	19	11.80	2.12	(0.29–94.40)
Combination: I and/or a health professional thought baby was not gaining enough weight	31	19.25	1.04	(0.26–6.05)
Baby became sick or could not breastfeed	6	3.73	–	–
Breasts were infected/abscesses	3	1.86	–	–
Breasts leaked too much	6	3.73	–	–
I (mother) was sick or had to take medicine	10	6.21	–	–
Combination: I had trouble getting the milk flow to start and/or I didn’t have enough milk	90	55.90	0.55	(0.14–1.81)
Combination: My nipples were sore, cracked, or bleeding and/or breastfeeding was painful	28	17.39	0.60	(0.16–2.76)
Sum of physiological experiences	1.73	(1.55)	0.84	(0.62–1.15)
Social experiences				
Could not or did not want to pump or breastfeed at work	34	21.11	1.98	(0.42–18.81)
Combination: Wanted or needed someone else to feed the baby or someone else wanted to feed the baby	21	13.04	2.39	(0.33–106.02)
Did not want to breastfeed in public	21	13.04	2.39	(0.33–106.02)
Too many household duties	6	3.73	–	–
Not present to breastfeed for reasons other than work	1	0.62	–	–
Sum of social experiences	0.52	(0.79)	1.94	(0.79–6.88)
Overall—physical & social experiences				
Total sum of experiences	2.25	(1.88)	0.95	(0.74–1.26)

*** $p < 0.001$

Common physiological and social experiences this sample of mothers indicated with their first child included trouble with: milk flow or supply, baby’s latch or suck, and pumping at work (see Table 3). The odds ratios could not be adequately derived using exact logistic regression for the following physiological and social experiences due to low frequencies: the baby became sick or could not breastfeed, breasts were infected/abscessed, breasts leaked too much, I (mother) was sick or had to take medicine, too many household duties, and not present to breastfeed for reasons other than work. Results indicate mothers who experienced trouble with the first baby’s suck or latch had significantly lower odds of initiating breastfeeding with a second child compared to mothers who did not experience this problem (OR 0.14, 95% CI 0.03–0.46). The remaining physiological and social experiences, including the sum variables indicating the number of difficulties experienced, were not significantly associated with initiating breastfeeding with a second child.

Multivariate Model

The full model in Table 4 includes maternal perceptions and experiences related to breastfeeding the first child found to be significantly associated with the outcome (initiation with second child) in bivariate analyses. The final model showed that mothers experiencing trouble with the first baby’s suck or latch had significantly lower odds of initiating breastfeeding with a second child compared to mothers who did not experience trouble with suck or latch

(OR 0.15, 95% CI 0.04–0.56). Also, mothers who agreed (strongly or somewhat) that children who were breastfed are less likely to become obese had significantly greater odds of initiating breastfeeding compared to mothers who did not agree (OR 11.49, 95% CI 1.56–513.18).

Discussion

Using longitudinal data, this study showed that mothers’ breastfeeding experiences with their first child and beliefs related to the benefits of breastfeeding may partly determine whether they initiate breastfeeding with a second child. More specifically, the results show that mothers who experienced trouble with their first baby’s suck or latch had lower odds of initiating breastfeeding with a second child compared to those who did not have trouble with latch; whereas, those who agree that breastfed infants were less likely to become obese children had greater odds of initiating breastfeeding compared to those who did not agree. Thus, efforts to facilitate breastfeeding initiation among multiparas may consider previous breastfeeding difficulties, focusing on how to prevent breastfeeding problems with subsequent children, and increasing mothers’ awareness that breastfeeding may prevent childhood obesity. Given that these perceptions and beliefs were assessed soon after mothers stopped breastfeeding with their first child, this may represent a potential time for interventions addressing these factors.

Table 4 Multivariate model: factors related to breastfeeding one’s first child associated with initiation of a second child

	Full model (N = 127) OR (95% CI)	Final model (N = 137) OR (95% CI)
Maternal perceptions		
Intention to breastfeed 2nd child ^a	3.02 (0.43–33.37)	
Satisfaction	1.12 (0.62–2.14)	
Opinion about breastfeeding ^b	1.84 (0.23–19.13)	
Belief about breast milk ^c	1.50 (0.27–12.22)	
Response efficacy: ear infections ^d	0.63 (0.03–44.07)	
Response efficacy: respiratory illness ^d	3.47 (0.08–22.92)	
Response efficacy: diarrhea ^d	0.34 (0.01–4.72)	
Response efficacy: obesity ^d	4.83 (0.48–243.33)	11.49** (1.56–513.18)
Experiences		
Trouble with baby’s suck or latch	0.47 (0.08–2.21)	0.15** (0.04–0.56)
Breastfeeding duration	1.01 (0.95–1.09)	

**p < 0.01

^a“Very likely” intention versus any other response, measured shortly after cessation of breastfeeding one’s first child

^bBreastfeeding is best way to feed a 3 month old baby versus any other response

^cDisagree (strongly or somewhat) that infant formula is as good as breast milk versus any other response

^dAgree (strongly or somewhat) versus any other response

In this study, 86% of mothers who initiated breastfeeding with their first child, also initiated with their second child. While mothers often repeat the infant feeding method used for their first child with their subsequent child (Phillips et al. 2011), findings of this study show the generalization is not true for all multiparas, particularly those who experienced trouble with the first baby's suck or latch. This breastfeeding barrier occurs early in the postpartum period and without establishing good latch, breastfeeding may be painful, leading mothers to be more likely to stop breastfeeding after a short duration (Li et al. 2008). With a second child, mothers may expect a similar experience as the first and trouble with the first baby's suck or latch may lead to hesitation to breastfeed a second child. These findings highlight the importance of working with first-time mothers to prevent and address early problems with the first baby's suck or latch, which not only influence the breastfeeding experience and duration of the first child, but also impact breastfeeding outcomes of future children. Findings also affirm the value of identifying and considering a multiparous mother's previous experience(s) to effectively support subsequent initiation.

While previous infant feeding experiences may be non-modifiable at the time the next birth occurs, this study showed that response efficacy, a modifiable intrapersonal factor associated with breastfeeding one's first child, may be considered in facilitating breastfeeding initiation with subsequent children. Mothers' beliefs about the health benefits of breastfeeding in the short-term (i.e., *infants* who are breastfed are less likely to get ear infections, respiratory illness, and diarrhea) were significantly associated with breastfeeding initiation with a second child in bivariate analysis, but when considered together in the multivariate model, were not retained. On the other hand, agreeing that *children* who were breastfed are less likely to become obese, a longer-term health effect of breastfeeding, remained highly significant in the final multivariate model suggesting beliefs about longer-term impacts may be relatively more important in determining behavior with subsequent children. Future research should investigate how mothers think about and understand the health-related benefits of breast milk and breastfeeding, to explain why a long-term child health condition was a better predictor of breastfeeding initiation than conditions that are more acute, particularly examining possible differences between primiparas and multiparas.

Maternal perceptions, especially agreeing with the benefit of breastfeeding in reducing the risk for childhood obesity, significantly increased the odds of initiating breastfeeding with a second child, over and above the negative physiological experiences that can act as barriers. In general, response efficacy is increased by emphasizing the importance of a particular health behavior in preventing

a disease or illness (Norman et al. 2005). With a significant emphasis placed on reducing childhood obesity in the United States (White House Task Force on Childhood Obesity 2010), the threat of one's own child potentially becoming obese may motivate mothers to breastfeed as recommended. This study measured response efficacy at 7-months postpartum with one's first child and it is unknown how these beliefs may change between children. It is possible for individual perceptions to change over time, both positively and negatively, yet these results indicate perceptions held while breastfeeding one's first child may carry over to the behavior at a later point. Thus, in facilitating breastfeeding initiation among multiparas, it may be useful to evaluate the changes in mothers' beliefs about breastfeeding and communicate its benefits. Intervention studies should be established to explore whether working to help mothers understand the long term benefits of breastfeeding (e.g., reduced risk of childhood obesity) by informally sharing statistics and case studies (Bowles 2011) leads to an increase in response efficacy and breastfeeding initiation. Additionally, response efficacy perceptions of breastfeeding outcomes not considered in this study, such as the benefit of breastfeeding in facilitating maternal weight loss (Baker et al. 2008) or closeness and relationship with the child (Schmied and Barclay 1999) should be considered among multiparas in relation to breastfeeding subsequent children.

Limitations

The methods used to select the original IFPS II study sample, and subsequent Y6FU, via a consumer opinion panel introduces selection bias and those who chose to participate may differ from those who did not (Fein et al. 2008). Data were self-reported, potentially introducing social desirability or recall biases. The sample size of this study was small and did not offer adequate variability for deeper investigation of four physiological and two social experience variables as well as respondents' race and ethnicity. While the IFPS II data is at least 10 years old, the inclusion of the Y6FU, released in 2014, was ideal for longitudinal measurement of behavior among multiparas. Future studies with more participants are needed to parse out the possible associations with other types of demographic factors, experiences, and perceptions that may also be important.

Conclusion

This study showed experiencing trouble with the first baby's suck or latch was identified as an experience that may hinder the initiation of breastfeeding with a second

child; whereas mothers' belief that breastfeeding reduces the risk of childhood obesity may facilitate breastfeeding initiation with a second child. Findings highlight the need to address early breastfeeding troubles mothers experienced with the first child and provide support and information to troubleshoot before the subsequent child arrives, especially in regard to the infant's suck and latch. In addition, evaluating mothers' beliefs about the long-term health benefits of breastfeeding and communicating its benefits may facilitate an effort to increase breastfeeding initiation among multiparas. In order to inform practitioners of the types of health benefits associated with breastfeeding initiation among multiparas, future research should explore the degree to which additional health benefits, including the mother's health (e.g., expectation of weight loss) and the mother-baby bond, are associated with breastfeeding initiation with subsequent children. Further explorations of whether emphasizing long-term health benefits such as obesity and chronic health conditions motivate breastfeeding initiation would be beneficial in informing future public health interventions.

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

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