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Predictors of Postpartum Sexual Activity and Function in a Diverse Population of Women

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Abstract

Introduction—The purpose of this study was to identify predictors of postpartum sexual activity and functioning in a diverse population of women using the Sexual Health Outcomes in Women Questionnaire (SHOW-Q).

Methods—This was a prospective study of 160 postpartum women assessing relationships between demographic factors, mode of birth, depression, breastfeeding, and sexual activity and function. Questionnaires were administered over the telephone 8 to 10 weeks postpartum and in person 6 to 8 months postpartum. Primary outcomes were sexual activity at 8 to 10 weeks postpartum and global and subscale SHOW-Q scores at 6 to 8 months postpartum; the primary predictor was mode of birth. Associations were assessed using multiple linear and logistic regression analyses.

Results—Seventy-five percent of this population ($n = 140$ at 8–10 weeks, $n = 129$ at 6–8 months) gave birth vaginally, and 60.7% resumed sexual activity by 8 to 10 weeks postpartum. Only multiparity was associated with increased odds of having resumed sexual activity by 8 to 10 weeks postpartum (adjusted odds ratio [aOR], 2.44; $P = .03$), whereas older age was associated with decreased odds (aOR, 0.92; $P = .02$) of having resumed sexual activity. Women who were depressed (effect estimate, -13.3 ; $P = .01$), older (-1.1 , $P = .01$), or exclusively breastfeeding (-16.5 , $P < .001$) had significantly poorer sexual satisfaction, whereas multiparous women reported better sexual satisfaction (11.1 , $P = .03$). A significant relationship between mode of birth and SHOW-Q scores did not emerge, although we did observe a trend toward lower SHOW-Q scores among women who underwent cesarean compared with those giving birth vaginally.

Discussion—Multiparity and younger age predict early resumption of sexual activity, whereas depression and breastfeeding are associated with poorer postpartum sexual functioning. The relationship between mode of birth and resumed sexual activity or postpartum sexual function remains uncertain.

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CONFLICT OF INTEREST

The authors have no conflicts of interest to disclose.

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Keywords

breastfeeding; depression; mode of birth; postpartum sexual function

INTRODUCTION

Understanding and promoting healthy female sexuality is an important component of providing care for the whole woman, including during the transitions of the postpartum period. Postpartum sexual changes are thought to be common, in part because of the contribution of perineal trauma to dyspareunia and pelvic pain.¹⁻⁷ However, these findings do not necessarily persist in the absence of operative vaginal birth or episiotomy.⁸ In the context of the rapidly rising cesarean rate in the United States, preservation of sexual function has been reported as one factor underlying maternal preferences for this mode of birth.^{1, 9, 10} But long-term postpartum data have confirmed that mode of birth appears to have no measurable impact on sexual functioning,¹¹⁻¹⁶ and data on postpartum sexual functioning and its relationship to mode of birth are conflicting and of inconsistent quality.^{2, 10} Further, in addition to the lack of consensus on the relationship between mode of birth and postpartum sexual functioning, little is known about other factors that may be associated with poor postpartum sexual functioning, including breastfeeding and depression.

Although several investigations have found that many women resume sexual activity early in the first 2 months after birth, few have identified predictors of early sexual activity or perceived quality of sexual health.^{2, 5} Studies that address postpartum sexual functioning often focus on dyspareunia and vaginal intercourse, to the neglect of other aspects of sexuality, such as satisfaction and desire. Little attention has been paid to the impact of breastfeeding on other aspects of female sexual functioning aside from dyspareunia. In addition, although postpartum depression has been widely studied and found to be common, there has been little attention to the complex relationship between postpartum mood disorders and sexual functioning. Finally, the most commonly used survey instruments, such as the Intimate Relationship Scale and the Female Sexual Function Index, are typically designed to assess heterosexual, partnered sexual activity and do not fully explore the breadth and diversity of the female sexual experience.^{8, 17, 18}

The purpose of this study, as part of a larger study of women's preferences for vaginal versus cesarean birth, was to explore potential predictors of sexual activity and sexual functioning, including the mode of birth.

METHODS

Overview

We used a prospective, observational design to investigate predictors and correlates of postpartum sexual activity and functioning, using the Sexual Health Outcomes in Women Questionnaire (SHOW-Q), a validated scale designed to assess the full range of female sexual activity, including same-sex and unpartnered sexual activity.¹⁹ This was a secondary analysis conducted as part of a larger longitudinal study entitled Mode of Delivery

Preferences among Diverse Populations of Women, conducted at the University of California, San Francisco (UCSF) from August 2008 to March 2011. Letters of invitation with opt-in/opt-out cards were sent to all pregnant women obtaining prenatal care at the UCSF obstetrics practice; those who returned the card with “opt in” checked off or who did not return the card were contacted by one of the study interviewers, who further described the study and assessed eligibility and interest in participation. English-speaking women with singleton gestations willing to undergo an in-person interview were asked to provide consent and participate in one baseline face-to-face interview between 24 and 36 weeks’ gestation and in 2 postpartum interviews. Postpartum interviews consisted of a telephone interview 8 to 10 weeks after birth and a face-to-face interview at 6 to 8 months postpartum and included questions on sexual activity and function, depression, mode of birth, and breastfeeding. At the completion of each face-to-face interview, participants received \$40 in cash. This study was approved by the UCSF Committee on Human Research. Participants signed written informed consent at the start of the baseline interview.

Measures

The primary predictor for our study was mode of birth, which was assessed during the first postpartum interview. Our primary outcomes were resumption of sexual activity and sexual function. In this study, sexual activity was self-defined as the presence or absence of sexual activity, with or without a partner, whereas sexual function was an assessment of the quality of the sexual activity.

To measure sexual function, we used a modified version of the SHOW-Q.¹⁹ The original SHOW-Q is a 12-item scale that consists of 4 subscales: satisfaction (2 items), orgasm (4 items), desire (3 items), and pelvic problem interference (3 items). For our purposes, the pelvic problem interference subscale was consolidated into a single question about discomfort from the recent birth. The reason for this modification was to specifically focus on the impact of postpartum changes or discomfort on sexual functioning, rather than pelvic problems in general; this modified subscale was termed the “delivery interference subscale.” Thus, our modified SHOW-Q scale consisted of 10 items. At the 8- to 10-week interview, women only completed the modified SHOW-Q if they reported they had resumed sexual activity since birth; the specific sexual behaviors for an affirmative response regarding resumption of sexual activity were self-defined and could include partnered or unpartnered behavior. Partners could be same or opposite sex. Women were not asked about specific sexual behaviors at either time. If they answered “yes” to whether they had resumed sexual activity, they answered the 10 modified SHOW-Q items, and a global SHOW-Q score could be computed. Early sexual activity was defined as sexual activity taking place prior to the first postpartum interview at 8 to 10 weeks. At the 6- to 8-month interview, sexually active women (those who said “yes” to sexual activity with or without a partner in the last 4 weeks) responded to all items of the modified SHOW-Q, yielding a global SHOW-Q score. Women reporting no sexual activity during the last 4 weeks responded to the satisfaction subscale, 2 items of the desire subscale, and the delivery interference single-item question.

From these data, we calculated global and subscale modified SHOW-Q scores. In all cases, higher scores reflect better sexual functioning or fewer sexual problems. For sexually active

respondents, the 10-item global score was determined by first rescaling the response score into 0 to 100 points and then computing a global score as the mean of the rescaled score. The subscales were scored in a similar fashion; in this study, we assessed the satisfaction 2-item subscale and the delivery interference 1-item subscale. Women who had resumed sexual activity were assessed via both the global score and subscale scores. Women who had not resumed sexual activity were assessed via the 2 subscales only.

Other predictors and covariates included sociodemographic characteristics, reproductive history, sexual functioning at the baseline interview, and depression and breastfeeding at each postpartum interview. Depression was assessed using the Patient Health Questionnaire-9 (PHQ-9), a validated 9-item screening questionnaire developed in the primary care setting and also validated in a general obstetrics-gynecology population.^{20, 21} The PHQ-9 has been validated specifically in a pregnant and postpartum population and has similar test characteristics for detection of depression compared with other commonly used scales, including the Edinburgh Postnatal Depression Scale.²² It has been used in a variety of clinical settings, including pregnant, postpartum, and parenting women.^{23, 24} Using standard PHQ-9 scoring techniques, for the purposes of this study, participants were considered to screen positive for depression if their scores were in the “major” or “other” depressive disorder range. Breastfeeding was assessed during both follow-up interviews via a single question asking whether the woman was exclusively breastfeeding, feeding via a combination of breast milk and formula, or exclusively formula-feeding.

At both follow-up interviews, women were asked an open-ended question: “During the past 4 weeks, has anything else interfered with your normal or regular sexual activity (with or without a partner)?” Qualitative answers were recorded verbatim and then coded to organize the responses into themes. Coding was performed by hand by one author using a grounded-theory technique, resulting in 7 primary categories for responses indicating something was interfering with sexual activity.²⁵ Responses indicating nothing was interfering with sexual activity were not coded, as they were taken to be identical to those women who did not provide any response. Responses were coded into themes; some respondents provided multiple answers, which were coded individually into separate categories.

Analyses

The outcomes for this analysis were resumption of postpartum sexual activity at 8 to 10 weeks postpartum, global modified SHOW-Q score among those who had resumed sexual activity at 6 to 8 months, and modified SHOW-Q subscale scores for sexual satisfaction and delivery interference, among all participants at 6 to 8 months postpartum. To compare the primary outcomes by mode of birth, we used the chi-square test for proportions and the *t* test for continuous measures. Multivariate logistic regression with backward elimination (retaining $P < .20$) was used to identify predictors of resumption of postpartum sexual activity, and multiple linear regression with backward elimination (retaining $P < .20$) was used to identify correlates of SHOW-Q scores. Because mode of birth was our primary predictor, it was retained in all models regardless of *P* value. Statistical significance was set at a *P* value less than .05. All analyses were implemented using SAS Version 9.2 (SAS Institute, Cary, NC).

RESULTS

One hundred and sixty women enrolled in the study and completed baseline interviews. Among them, 140 (87.5%) completed the 8- to 10-week postpartum interview and 129 (80.6%) completed the 6- to 8-month postpartum interview (Table 1). There were no differences in the sociodemographic characteristics of women who completed only the baseline interviews versus those who participated in all 3 interviews. Three-quarters of the participants reported having undergone a vaginal birth. By 6 to 8 months 45.2% of women were breastfeeding, and 25.4% had PHQ-9 scores indicative of major or other depression. At 8 to 10 weeks 60.7% of women had resumed sexual activity, whereas at 6 to 8 months 76.7% reported having had sexual activity in the previous 4 weeks.

Neither the rate of reported sexual activity at either time nor the modified SHOW-Q scores differed significantly by mode of birth. In the bivariate analysis, only multiparity was found to be predictive of resumed sexual activity at 8 to 10 weeks postpartum. Multivariate analyses, using a backward elimination model, yielded 2 significant predictors of resumed sexual activity at 8 to 10 weeks (Table 2). Specifically, multiparous women were significantly more likely to have resumed sexual activity, whereas women who were older were less likely to have done so (adjusted odds ratio [aOR] given for each one-year increase in age). There was no relationship between resumption of sexual activity and mode of birth, depression, or breastfeeding.

At 6 to 8 months postpartum, three-quarters of the participants reported sexual activity in the past 4 weeks, with a mean (SD) global modified SHOW-Q score of 72.8 (19.6). Eight women who reported resuming sexual activity at 8 to 10 weeks postpartum reported no sexual activity in the past 4 weeks at the 6- to 8-month interview, and 22 women who were not sexually active at the early survey reported sexual activity at the later time. The effect of women's characteristics on the modified SHOW-Q scores was examined using effect estimates, which describe the impact of each factor on the absolute change in the SHOW-Q score from the mean score for the reference group (Table 3). The SHOW-Q scores range from 0 to 100, and the effect estimates indicate the actual change in score above or below the reference population's score. For example, in bivariate analysis, African American women had an effect estimate of 9.5, indicating their scores were, on average, 9.5 points higher than the average score for the reference population of white women ($P = .03$). A negative effect estimate indicates that the SHOW-Q score would actually be lower for the identified population compared with the reference population. In the multivariate backward elimination model for the global SHOW-Q, breastfeeding ($P = .02$) and older age ($P = .04$) were noted to be associated with lower global modified SHOW-Q scores. Women who screened positive for depression demonstrated a trend toward lower scores ($P = .09$). There was no statistical difference in global modified SHOW-Q score by mode of birth, although women who experienced cesarean birth had lower scores on average than those who gave birth vaginally ($P = .18$).

Similar findings emerged from analyses of correlates of modified SHOW-Q satisfaction subscale scores, which were assessed for all participants at the 6- to 8-month interview. Overall the mean (SD) satisfaction subscale score was 67.8 (27.8). Again, effect estimates

were used to identify the change in SHOW-Q satisfaction subscale scores for each characteristic compared with the reference group (Table 4). Satisfaction subscale effect estimates were adjusted for antepartum satisfaction scores. On multivariate linear regression using backward elimination, older age ($P = .01$), depression based on the PHQ-9 ($P = .01$), and exclusive breastfeeding ($P < .001$) were significantly associated with less sexual satisfaction. Better antepartum SHOW-Q satisfaction score ($P = .048$) and multiparity ($P = .03$) were associated with greater postpartum SHOW-Q satisfaction. As with the global modified SHOW-Q, there was a trend toward lower satisfaction subscale scores among women who had a cesarean birth ($P = .13$). At 6 to 8 months postpartum, participants were presented a delivery interference subscale as a part of the modified SHOW-Q, which consisted of a single item asking the extent to which discomfort from birth interfered with sexual activity (with or without a partner). In multivariate regression, none of the predictors and covariates we measured was found to be significantly associated with delivery interference.

Finally, 33 women at 8 to 10 weeks postpartum and 64 women at 6 to 8 months postpartum responded affirmatively to the open-ended qualitative question regarding whether other factors had interfered with sexual activity. Some women provided answers at both times. Coding of answers to this question yielded 7 themes: fatigue, presence of newborn/children at home, contraception, postpartum pain or discomfort, partner/relationship problems, lack of desire, and weight/health concerns. The most commonly cited factors included fatigue (45.4% and 21.9% of responses at 8 to 10 weeks and 6 to 8 months, respectively) and presence of the newborn and/or older children at home (30.3% and 35.9%, at 8 to 10 weeks and 6 to 8 months, respectively). At 8 to 10 weeks, one woman cited cesarean birth pain; no one reported this at 6 to 8 months. Vaginal pain or dryness was reported as interfering with sexual activity by one woman at 8 to 10 weeks and 3 women at 6 to 8 months. Lack of desire was noted by 2 women at 8 to 10 weeks and 4 women at 6 to 8 months. None of the participants reported partner or relationship problems at 8 to 10 weeks, but 5 reported such problems at 6 to 8 months.

DISCUSSION

Postpartum well-being is influenced by the many physical, hormonal, social, cultural, and emotional changes that occur in a woman's/couple's transition to parenthood.² Although postpartum depression, nutrition, and pelvic floor function have been widely investigated, postpartum sexual health has not always received the same attention.² Our study sheds light on this important aspect of postpartum health-related quality of life.

Our findings suggest that a majority of women resume sexual activity in the early postpartum period. In our study, mode of birth was not a significant predictor of resumed sexual activity or sexual function scores. We did find that demographic factors, including age and parity, were related to having resumed sexual activity, and that breastfeeding and depression were associated with poorer sexual function and decreased satisfaction with sex. These findings, notable for the diversity of the population assessed and the strengths of the scale used, support previous evidence. Breastfeeding is known to be associated with dyspareunia, decreased sexual desire, and nonresumption of sexual intercourse because of

both the hormonal changes and fatigue associated with breastfeeding.^{2, 3, 14, 26–28} Previous studies also indicated that postpartum depression is linked to poorer-quality sexual health.^{1, 29} These findings would suggest that postpartum sexual functioning is influenced by a number of complex factors. The presence of depression or other mental health disorders and the practice of exclusive breastfeeding may be barriers to optimal postpartum sexual satisfaction.

Interestingly, despite anecdotal reports that cesarean birth may be protective of sexual functioning, women in our study who had cesareans had lower SHOW-Q scores than those who had a vaginal birth, although these differences did not reach statistical significance. This observation is worthy of further investigation in a larger cohort. Gaining additional data on this topic is particularly relevant given the current climate of concern over the rising cesarean birth rate, particularly with regard to decision making for cesarean births on maternal request, in which women's concerns regarding urogynecologic or sexual functioning may play a role.¹⁰

How do the SHOW-Q scores of our participants compare with those of women in other studies? The SHOW-Q scale was designed to measure the spectrum of sexual functioning and not to dichotomize people to groups above or below cutoff points. Although the SHOW-Q has not been validated in a postpartum population specifically, it has been used in a variety of women's health settings.³⁰ In the original validation study in other settings, typical SHOW-Q scores were between 50 and 60 for women with endometriosis before surgical treatment, between 48 and 75 among women with noncancerous pelvic problems seeking treatment, and between 55 and 70 in a large, diverse population of premenopausal, sexually active women seeking gynecologic care for benign indications.^{19, 30, 31} It is important to note that there is no specific score designating healthy or unhealthy sexual functioning; rather, the SHOW-Q is useful in its ability to demonstrate the range of sexual functioning in a group.

This study is unique in that it is the first to use the SHOW-Q to study postpartum sexuality. Sexuality includes a wider range of expression than partnered, heterosexual intercourse. The SHOW-Q is a more comprehensive and holistic scale that addresses the wide range of female sexual functioning, instead of limiting exploration to physical aspects of sexuality such as vaginal intercourse, pelvic pain, and dyspareunia. Understanding female sexual function in a context that includes unpartnered and same-sex activity as well as partnered, heterosexual activity provides a more comprehensive view of healthy postpartum sexuality. Of note, information about specific sexual activity behaviors was not collected, although questions were sufficiently inclusive to allow a wide definition of sexual activity. Furthermore, sexuality does not solely include the actions of sexual behavior. Satisfaction and desire, both of which are measured by the SHOW-Q, are important parts of female sexuality that are often neglected in other scales. We believe that use of a scale such as the SHOW-Q is necessary to understand postpartum sexual functioning in the most inclusive manner.

This study is not without limitations. First, the sample size was relatively small, and as a result, some findings emerged as trends but did not reach statistical significance. Although

ethnically diverse, this population came from an English-speaking population in the San Francisco Bay Area and thus may not be generalizable to women in other parts of the United States or to non-English speakers. Further, although the follow-up rate was high, it is possible that differences in responders and nonresponders differentially affected the results. In addition, some features of study design precluded analysis of certain factors that may affect or explain sexual function. For example, we were unable to study reasons why the sexually inactive women did not engage in sexual activity. In addition, although major perineal trauma was found to be unrelated to the SHOW-Q score, we did not include questions about operative vaginal birth and episiotomy. It is possible that the reason multiparas were more likely to resume sexual activity by the first interview is because they experienced fewer operative vaginal births and episiotomies. Further, although used in a variety of diverse populations, the SHOW-Q has not been specifically validated in postpartum women. Our modified SHOW-Q has also not been validated; although the reason for the modification of the pelvic problem interference subscale was to focus specifically on postpartum discomfort, this modification has not been previously studied. Finally, the questionnaire did not include questions about sexual partner (including whether sexual partner was male or female) or contraceptive method used; sexual activity and function are also likely to be influenced by partner behavior and attitudes and/or choice of contraceptive method.

Nonetheless, there are several important clinical implications of our findings. First, given the high proportion of women reporting resumed sexual activity before the 8- to 10-week interview, we recommend that counseling for pregnant and postpartum women include the possibility of early postpartum sexual activity, with appropriate contraception counseling. We recommend that this counseling begin in the antenatal period to provide guidance about potential postpartum changes. Second, we encourage health care providers to actively screen all women for postpartum depression. One particularly notable finding was the significant increase in depressive symptoms noted between the 8- to 10-week (13.6%) and the 6- to 8-month (25.4%) interviews (defined as “major” and “other” depressive disorders by the PHQ-9); many women no longer see their prenatal providers at the 6- to 8-month point and may not be accessing care for their mood symptoms. Yet, based on the PHQ-9, the risk for postpartum depression was common in this population, and our study found associations between depressed mood and poorer-quality sexual functioning. Health care providers should both offer anticipatory guidance about postpartum depression and actively screen for mood disorders, including recognition of the impact of mood disorders on many aspects of health, including sexual functioning. In a busy clinical practice, screening for depression can take place with little difficulty using either the Edinburgh Postnatal Depression Scale or the Patient Health Questionnaire–9.^{21, 32} Third, we recommend that counseling on breastfeeding include guidance on coping with its potential impact on sexual health in order to help women successfully combine breastfeeding with a healthy sexual life.

Most important, we recommend that health care providers caring for postpartum women ask about concerns regarding postpartum sexual functioning and counsel on this issue. Few women report postpartum sexual problems to providers.^{3, 29, 33} Barrett et al noted that only 28% of women reported that anyone discussed postpartum sexual changes antenatally, despite the high frequency of reported sexual problems.³³ The lack of professional

recognition of postpartum sexual problems persists in postpartum clinical interactions; in one study, only 34% of women reported that their provider asked about sexual intercourse at 6 weeks postpartum.²⁷ Given our findings about barriers to healthy postpartum sexual functioning, we encourage practitioners to candidly and regularly speak with their pregnant and postpartum patients about postpartum sexual health. Providers should identify risk factors, address concerns and expectations, and provide advice, reassurance, solutions, and explanations. We also recommend that future work continue to explore the complex, multifactorial relationship between the birth experience and postpartum sexual activity and satisfaction in order to identify ways in which providers can optimize the birth experience for women's long-term health and well-being. We hope that future work using a validated, comprehensive scale such as the SHOW-Q to further investigate the predictors of postpartum sexual functioning, including the relationship between mode of birth and postpartum short- and long-term sexual functioning in a larger cohort of diverse women, will help to inform patient-provider discussions of sexual functioning both before and after birth.

Biographies

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Quick Points

- ◆ Postpartum women enrolled in a study of mode of birth preferences were interviewed at 8 to 10 weeks postpartum and 6 to 8 months postpartum. Interviews included the Sexual Health Outcomes in Women Questionnaire (SHOW-Q), as well as questions on depression and breastfeeding.
- ◆ A majority of the participants resumed sexual activity in the early postpartum period.
- ◆ Depression and exclusive breastfeeding were found to be associated with poorer sexual satisfaction on the SHOW-Q scale.
- ◆ Fatigue and the presence of the newborn (or other children) at home were the most commonly cited issues in an open-ended question about factors interfering with postpartum sexual activity.

Table 1

Participant Sociodemographic and Clinical Characteristics

Participant Characteristic	8–10 Weeks Postpartum (n = 140)	6–8 Months Postpartum (n = 129)
Age, mean (SD), y	32.3 (5.9)	32.1 (6.0)
Race/ethnicity, n (%)		
White	70 (50.0%)	67 (51.9%)
African American	37 (26.4%)	34 (26.4%)
Latina or Hispanic	9 (6.4%)	10 (7.8%)
Asian	23 (16.4%)	17 (13.2%)
Native American, mixed, or other	1 (.7%)	1 (.8%)
Education: some college or less, n (%)	56 (40.0%)	53 (41.1%)
Married or living with partner, n (%)	117 (83.6%)	107 (83.0%)
Multiparous, n (%)	89 (63.6%)	84 (65.1%)
Cesarean birth, n (%)	34 (24.3%)	30 (23.3%)
Exclusively breastfeeding, n (%)	88 (63.3%)	57 (45.2%)
Depressed, ^a n (%)	19 (13.6%)	32 (25.4%)
Sexually active, ^b n (%)	85 (60.7%)	99 (76.7%)

^aWomen were classified as depressed if their PHQ-9 score indicated major or other depression.

^bSexual activity was defined as partnered or unpartnered sexual activity, with a same-sex or opposite-sex partner. Women were not asked about specific sexual behaviors. At 8–10 weeks, women were asked about whether they had resumed sexual activity since birth. At 6–8 months, women were asked about whether they had any sexual activity in the last 4 weeks.

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Table 2

Predictors of Resumed Sexual Activity by 8–10 Weeks Postpartum

Participant Characteristic	Bivariate Analysis		Multivariate Analysis ^a	
	OR (95% CI)	P Value	aOR (95% CI)	P Value
Age ^b	0.95 (0.90–1.01)	.11	0.92 (0.86–0.98)	.02
Ethnicity			— ^c	—
White	(ref)			
African American	1.75 (0.76–4.04)	.19		
Latina or Hispanic	2.95 (0.57–15.20)	.20		
Asian	1.58 (0.59–4.20)	.36		
Native American, mixed, or other	0 (0.00)	.99		
Education: some college or less	1.89 (0.93–3.87)	.08	—	—
Married or living with partner	1.52 (0.62–3.74)	.36	2.42 (0.89–6.58)	.08
Multiparous	2.15 (1.06–4.36)	.03	2.44 (1.09–5.45)	.03
Cesarean birth	1.77 (0.77–4.07)	.18	1.55 (0.61–3.93)	.36 ^d
Not breastfeeding	1.11 (0.55–2.26)	.77	—	—
Depression	0.68 (0.26–1.80)	.44	—	—

Abbreviations: aOR, adjusted odds ratio; CI, confidence interval; OR, odds ratio; ref, reference population.

^aMultivariate model is controlled for predictors retained from backward elimination procedure.

^bOdds ratio described for every one year increase in age.

^cThe symbol — indicates the factor did not emerge as significant in the backward elimination model.

^dAlthough cesarean birth did not emerge as significant, this variable was included in the final analysis as it was our primary predictor.

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Table 3Estimates of Global Modified SHOW-Q Scores at 6–8 Months Postpartum for Sexually Active Participants^a

Participant Characteristic	Unadjusted Effect Estimate (95% CI) ^b	P Value	Adjusted Effect Estimate (95% CI)	P Value
Age ^c	-1.0 (-1.7 to -0.4)	.002	-0.8 (-1.5–0.0)	.04
Ethnicity				
African American	9.5 (0.7–18.4)	.03	-5.6 (-15.6–4.5)	.28
Latina	15.9 (2.0–29.7)	.03	9.6 (-2.8–22.0)	.13
Asian	8.9 (-2.8–20.6)	.14	2.0 (-8.6–12.6)	.71
White	Ref ^d	Ref	Ref	Ref
Education: some college or less	12.4 (4.8–20.0)	.001	-7.2 (-16.4–2.0)	.13
Married or living with partner	-6.5 (-17.4–4.5)	.25	— ^e	—
Multiparous	4.1 (-4.0–12.1)	.32	6.8 (-1.5–15.0)	.11
Cesarean birth	-6.9 (-16.1–2.3)	.14	-5.7 (-13.9–2.6)	.18
Breastfeeding	-11.7 (-19.1 to -4.3)	.002	-8.4 (-15.5 to -1.2)	.02
Depression	-5.5 (-14.5–3.6)	.24	-6.9 (-14.8–1.0)	.09
Vaginal tearing	-1.2 (-12.0–9.7)	.83	—	—

Abbreviations: CI, confidence interval.

^aThe SHOW-Q is the Sexual Health Outcomes in Women Questionnaire. It is a validated scale designed to assess the full range of female sexual activity, including same-sex and unpartnered sexual activity. The modified SHOW-Q used in this study is a 10-item scale with a range of possible scores of 0–100.¹⁹

^bEffect estimates describe the impact of each factor listed in the left column on the change in total SHOW-Q score. A positive effect estimate indicates that the SHOW-Q score increased by that number of points (on average), whereas a negative score indicates a decrease in the SHOW-Q score.

^cEffect estimates described for every one year increase in age.

^dIndicates the reference group.

^eThe symbol — indicates the factor did not emerge as significant with the multivariable backward elimination model.

Table 4

Estimates of SHOW-Q Satisfaction Subscale Scores at 6–8 months Postpartum for All Participants^a

Participant Characteristic	Unadjusted Effect Estimate (95% CI) ^b	P Value	Adjusted Effect Estimate (95% CI)	P Value
Age ^c	-1.4 (-2.1 to -0.6)	<.001	-1.1 (-1.8 to -0.3)	.01
Ethnicity				
African American	15.6 (4.4–26.9)	.007	— ^d	—
Latina	19.1 (1.4–36.8)	.03	—	—
Asian	9.1 (-5.9 to -23.0)	.23	—	—
White	Ref ^e	Ref	—	—
Education: some college or less	16.7 (7.1–26.4)	.001	—	—
Married or living with partner	-11.8 (-25.4 to -1.9)	.09	—	—
Multiparous	5.2 (-5.2 to -15.6)	.33	11.1 (1.4–20.9)	.03
Cesarean birth	-9.1 (-20.9 to -2.7)	.13	-8.3 (-18.8 to -2.3)	.13
Breastfeeding	-20.1 (-29.3 to -10.6)	<.001	-16.5 (-25.1 to -7.8)	<.001
Depression	-9.8 (-20.9 to -1.4)	.09	-13.3 (-23.1 to -3.4)	.01
Vaginal tearing	4.7 (-9.6 to -19.0)	.52	—	—
Antepartum SHOW-Q satisfaction score ^f	25.1 (7.8–42.4)	.01	15.3 (0.3–30.3)	.048

^aThe SHOW-Q is the Sexual Health Outcomes in Women Questionnaire. It is a validated scale designed to assess the full range of female sexual activity, including same-sex and unpartnered sexual activity. The modified SHOW-Q used in this study is a 10-item scale with a range of possible scores of 0–100.¹⁹

^bEffect estimates describe the impact of each factor listed in the left column on the change in total SHOW-Q score. A positive effect estimate indicates that the SHOW-Q score increased by that number of points (on average), whereas a negative score indicates a decrease in the SHOW-Q score.

^cEffect estimates described for every one year increase in age.

^dThe symbol — indicates the factor did not emerge as significant with the multivariable backward elimination model.

^eIndicates the reference group.

^fPer 10-point increase in antepartum SHOW-Q score.

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