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Sexual Function 6 Months After First Delivery

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Pelvic Floor Disorders Network

Abstract

OBJECTIVE—To explore the association of anal sphincter laceration and sexual function 6 months postpartum in the Childbirth and Pelvic Symptoms (CAPS) cohort.

METHODS—The primary CAPS study, a prospective cohort study, was designed to estimate the postpartum prevalence and incidence of urinary and fecal incontinence. Three cohorts of new mothers (vaginal delivery with a third- or fourth-degree anal sphincter tear, vaginal delivery without a third- or fourth-degree anal sphincter tear, and cesarean delivery without labor) were compared at 6 months postpartum. Sexual function was assessed with the Pelvic Organ Prolapse/Urinary Incontinence/Sexual Function Short Form Questionnaire (PISQ-12). Urinary and fecal incontinence were assessed using the Medical Epidemiological and Social Aspects of Aging questionnaire and the Fecal Incontinence Severity Index, which is embedded within the Modified Manchester Health Questionnaire.

RESULTS—Most women (459 [90%]) of those with partners reported sexual activity at the 6-month visit. Fewer women whose delivery was complicated by anal sphincter laceration reported sexual activity when compared with those who delivered vaginally without sphincter laceration (88 compared with 94%, $P=.028$). The mean PISQ-12 score (39 ± 4) did not differ between delivery groups ($P=.92$). Pain (responses of “sometimes,” “usually,” or “always”) during sex affected one of three sexually active women (164 [36%]).

CONCLUSION—At 6 months postpartum, primiparous women who delivered with anal sphincter laceration are less likely to report sexual activity.

Childbirth is associated with short-term dyspareunia and other sexual complaints, including decreased libido, difficulty achieving orgasm, and vaginal dryness.¹⁻⁶ Six months from delivery, one in five women report dyspareunia²⁻⁴ and up to one in nine may not have resumed

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sexual activity.⁷ Only a small fraction of women with postpartum sexual problems seeks medical attention.^{5,7}

Critical dimensions of female sexual function include sexual desire, arousal, orgasm, and pain. In many studies of postpartum sexual function, assessment has been limited to vaginal intercourse as the only measure of sexual activity (with abstinence as a proxy for sexual dysfunction) and dyspareunia.^{2,7,8} Postpartum sexual activity can also be affected by a number of other factors, including breastfeeding,¹ episiotomy,³ pain,^{5,6} depression,⁹ and fatigue.⁹ Among women delivering vaginally, postpartum sexual function is least impaired in the absence of episiotomy or perineal laceration.^{1,2} However, it is not known whether anal laceration independently affects postpartum sexual function. The primary interest in this analysis was the prevalence and characteristics of sexual activity 6 months after delivery. We sought to detect an association of anal sphincter laceration with sexual function 6 months postpartum using data collected for the Childbirth and Pelvic Symptoms (CAPS) study.¹⁰

MATERIALS AND METHODS

The primary CAPS study was a prospective, institutional review board-approved cohort study designed to estimate the prevalence and incidence of urinary incontinence and fecal incontinence in women after childbirth. Briefly, primiparous women were enrolled in participating hospitals associated with the seven network clinical sites between September 2002 and September 2004 after a term singleton delivery and were interviewed by telephone at 6 weeks and 6 months postpartum. Three cohorts of primiparous women were followed: a clinically recognized third- or fourth-degree anal sphincter disruption group (n=407), a vaginal delivery control group without a clinically recognized sphincter disruption (n=390) but who may have had a first- or second-degree perineal tear, and a cesarean delivery control group with delivery before labor (n=124). To be eligible for participation, women had to have delivered a singleton gestation at 37 weeks or later, be able to give informed consent, and be able to participate in a telephone interview. Exclusion criteria were inflammatory bowel disease (ulcerative colitis or Crohn's disease), prepregnancy anorectal surgery, prepregnancy fecal incontinence, and presence of a neurological condition that would predispose to urinary or fecal incontinence.

For this ancillary analysis, we hypothesized that women with disrupted sphincters would be less likely to report sexual intercourse at 6 months after delivery and would have poorer sexual function as measured by lower Pelvic Organ Prolapse/Urinary Incontinence/Sexual Function Short Form Questionnaire (PISQ-12) scores. Institutional review board approval was obtained from the University of Michigan, Loyola University, University of Alabama and Birmingham, University of Pittsburgh, University of Iowa, University of North Carolina, Baylor Medical College, and Johns Hopkins University.

Urinary incontinence was defined as answering "sometimes" or "often" to any of the questions in the Medical Epidemiological and Social Aspects of Aging (MESA) questionnaire.¹¹ Fecal incontinence was defined as any involuntary leakage of mucous, liquid, or solid stool as assessed by the Fecal Incontinence Severity Index, which is part of the Modified Manchester Health Questionnaire.^{12,13}

At the time of the 6-month telephone assessment, sexual function at 6 months was assessed with the PISQ-12.¹⁴ The PISQ-12 is a 12-item, short-form, condition-specific tool for assessing sexual function in women with urinary incontinence or pelvic organ prolapse, with responses measured on a 5-point Likert scale. The PISQ-12 describes three major domains: Behavioral Emotive, Physical, and Partner-Related. The Behavioral Emotive domain evaluates sexual desire, frequency of sexual activity, and orgasmic capabilities, while the Physical

domain assesses more directly the effect of urinary incontinence or prolapse on sexual function. The Partner-Related domain assesses the patient's perception of her partner's response to the effect of her pelvic floor disorder on their sexual functioning, as well as her partner's sexual functioning. Although it uses questions from each of the domains, the short form is not able to fractionate which domain has the greatest impact on a participant's sexual function. The PISQ-12 was added approximately 1 year after CAPS enrollment began and thus results are not available for all 922 CAPS subjects; 546 women who completed the PISQ-12 at the 6-month interview were included in this study. Participants were considered sexually active if they reported sexual activity with a partner in the prior month. Of the 87 women who were not sexually active, 37 did not have a partner at the time of the interview (similar across groups) and are excluded from all analyses.

Chi-square and Fisher exact tests were used to compare demographic variables. Proportions were compared using the Mantel-Haenszel statistic after adjusting for age (dichotomized at age 30 years) and race (African American or not). Ordinal measures were compared by a general linear model applied to ranks after adjustment for age as a continuous variable and race (African American or not). *P* values are reported for all tests without correcting for multiple testing. Results are presented as mean±standard deviation or as a percentage and its 95% confidence interval.

Because this is a secondary analysis of the CAPS data, the sample size was determined by the primary end points of the CAPS study. In this study we are comparing percentages of women who are sexually active under different conditions. Because the average rate is 90%, if we consider comparing those with urinary incontinence to those without, there would have to be approximately a 9% difference in the rates of sexual activity to have 80% power to observe a difference when testing at a 5% level of significance.

RESULTS

Five hundred forty-six women from the CAPS study completed the PISQ-12 at the 6-month postpartum evaluation. Most women (459 of 509 [90.2%], 95% confidence interval 87.6–92.8%) reported being sexually active at the 6-month follow-up visit. Resumption of sexual activity did not differ by age, race, education level, or whether an episiotomy was performed; it was associated with marital status and whether Kegel exercises are performed (Table 1). Resumption of sexual activity in the sphincter tear and cesarean delivery cohorts were slightly lower than in the vaginal delivery control group (88% and 86% compared with 94%), (*P*=.028).

The effect of pelvic symptoms on the proportion of women reporting sexual activity is presented in Table 2. Women affected by fecal urgency were somewhat less likely to report sexual activity by the 6-month follow-up visit, although this finding did not reach statistical significance.

The mean PISQ-12 scores among the 459 women who reported sexual activity at 6 months was 39±4 and did not differ between groups (*P*=.92). Scores on PISQ-12 were not associated with age, race, or use of Kegel exercises. There were no statistically or clinically significant differences in the PISQ-12 responses for sexually active women in the sphincter tear cohort compared with the other cohorts (Table 3).

In women with a sexual partner, pain during sex (“sometimes,” “usually,” or “always”) was not significantly different in sexually active women compared with inactive women (36% compared with 29%, *P*=.43). Only one of 49 women who had a partner and were sexually inactive reported that fear of incontinence restricted their activity (2%), and none reported that

they avoided intercourse because of bulging in the vagina. Embarrassment during sex was reported by 31 of 295 (10.5%) sexually active women.

There were differences in individual PISQ-12 items between women with a partner who reported sexual activity and those who did not. Sexual desire, at least “sometimes,” was significantly more common in sexually active women than inactive women with a sexual partner (77% compared with 44%, $P<.001$). Sixty-seven percent of sexually active women reported that they were satisfied or very satisfied with the variety of their sexual activities, whereas only 31% of those who did not engage in sexual activities reported similar levels of satisfaction ($P<.001$).

DISCUSSION

Anal sphincter laceration decreases the proportion of women who return to sexual activity compared with women who deliver without this event. Although fecal incontinence appears to impact sexual function as well, our findings are limited by the small number of participants with that symptom. Urinary incontinence, identified using the Medical Epidemiological and Social Aspects of Aging questionnaire, was not associated with resumption of sexual activity. Despite the fact that the majority of new mothers reported sexual activity within 6 months of birth, a significant number reported problems with sexual function. These findings clearly indicate the need to screen all new mothers for sexual dysfunction and pelvic symptoms. The yield may be higher in women who sustained anal sphincter laceration at delivery; nevertheless, screening should occur regardless of delivery route or concomitant symptoms.

The strength of this analysis is the use of a validated sexual function instrument in a large, prospective, multicenter study with carefully characterized obstetric patients. This allowed a more complete characterization of sexual symptoms in this population. Because the patients were recruited from multiple centers across the country, the results of our study can likely be generalized to those women having their first delivery, either vaginally or by cesarean delivery without labor. The study population did not include women who underwent cesarean delivery in the first or second stage of labor.

A limitation of this study is that we had no baseline, prepregnancy measure of sexual function. We assumed all women were previously sexually active (as evidenced by their pregnancy), although we expect that some women may have had sexual dysfunction or extremely infrequent sexual activity before the index delivery. In some women, the levels of sexual dysfunction observed postpartum may have represented a return to baseline and may be unrelated to pregnancy and delivery. Women were not eligible for participation in the CAPS study with pre-existing fecal incontinence; although pre-existing urinary incontinence was not an exclusion criterion, this was experienced by less than 1% of the study population. Although breastfeeding has been associated with dyspareunia at 3 and 6 months postpartum, we could not test for this association because data on breastfeeding were not collected in this study. Similarly, depression is a potential contributor that was not assessed in this study. These are potential confounders that should be considered in future studies.

The PISQ-12 has good psychometric characteristics in older women with urinary incontinence and pelvic organ prolapse, but the validity and reliability in younger postpartum women without pelvic floor disorders has not been proven. In addition, the PISQ-12 was administered at a single point in time. We cannot, therefore, comment on whether women with or without anal sphincter laceration experienced more sexual difficulties in the first few months after birth. However, our results suggest that, by 6 months from delivery, sexual function is similar among women who sustain anal sphincter laceration, women who deliver without sphincter laceration, and women who deliver by cesarean before labor. Other measures of sexual function may have

provided different results. Our study does not reflect long-term sexual functioning. For the purpose of appropriately counseling patients, the duration and resolution of pelvic symptoms, including sexual dysfunction, are important outcomes to determine in future studies.

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Table 1
Demographics of the Participants With a Partner 6 Months Postpartum

	Active (n) (n=459)	Inactive (n) (n=50)	Active (%)	95% Confidence Interval (%)	P*
Race					
African American	80	12	87.0	80.1-93.8	.39
White	341	33	91.2	88.3-93.8	
Other	38	5	88.4	78.8-98.0	.73
Highest educational level					
Less than high school	26	3	89.7	78.6-99.9	
High school graduate or equivalent	81	13	86.2	79.2-93.1	
Some college	98	7	93.3	88.6-99.1	
College degree	170	17	90.9	86.8-95.0	
Graduate degree	84	10	89.4	83.1-95.6	.024
Marital status					
Single/separated/divorced	128	22	85.3	79.7-91.0	
Married/living as such	331	28	92.2	89.4-95.0	.028
Method of delivery					
Vaginal delivery	200	13	93.9	90.7-97.1	
Sphincter tear	198	27	88.0	83.8-92.2	
Cesarean delivery	61	10	85.9	77.8-94.0	
Episiotomy	164	16	91.1	87.0-95.3	.99
No episiotomy	234	24	90.7	87.2-95.2	
Performing Kegels	215	14	93.9	90.8-97.0	.036
Not performing Kegels	96	15	86.5	80.1-92.8	

Women were considered to be sexually active if they reported sexual activity in the prior month. Data are presented as n, %, and 95% confidence intervals.

* P value from Mantel-Haenszel test after adjustment for age (dichotomized at age 30 years) and race (dichotomized by African American). Missing values are excluded.

Table 2

Pelvic Symptoms at 6 Months Postpartum

	Active (n) (n=459)	Inactive (n) (n=50)	Active (%)	95% Confidence Interval (%)	P*
Urinary control [†]					
Continent	327	32	91.1	88.1-94.0	
Incontinent	132	18	88.0	82.8-93.2	.34
Fecal control [‡]					
Gas loss	128	16	88.9	83.8-94.0	.41
Liquid stool loss	40	5	88.9	79.7-98.1	.71
Solid stool loss	22	4	84.6	70.8-98.5	.27
Mucus	12	3	80.0	59.8-99.9	.19
Fecal urgency	127	20	86.4	80.8-91.9	.07

Data are presented as n in each category by sexual activity category and as percentage active in each row along with its 95% confidence interval.

* P-value from Mantel-Haenszel test after adjustment for age (dichotomized at age 30 years) and race (dichotomized by African American). Missing values are excluded.

[†] As measured by the Medical Epidemiological and Social Aspects of Aging (MESA).¹¹

[‡] As measured by the Modified Manchester Health Questionnaire¹² and Fecal Incontinence Severity Index.¹³

Table 3
Frequency of Responses to Selected PISQ-12 Items by Cohort for Sexually Active Women

	Sphincter Tear (n=198)		Vaginal Control (n=200)		Cesarean Control (n=61)		P*
	n	%	n	%	n	%	
How frequently do you feel sexual desire?							.55
Never	4	2.0	6	3.0	4	6.7	
Seldom	39	19.8	38	19.0	13	21.7	
Sometimes	100	50.8	104	52.0	27	45.0	
Usually	47	23.9	43	21.5	15	25.0	
Always	7	3.6	9	4.5	1	1.7	
How satisfied are you with the variety of sexual activities in your current sex life?							.095
1 (Very satisfied)	61	31.1	71	35.9	22	36.1	
2	67	34.2	65	32.8	19	31.1	
3	48	24.5	44	22.2	12	19.7	
4	17	8.7	14	7.1	8	13.1	
5 (Not at all)	3	1.5	4	2.0	0		
Do you feel pain during sexual intercourse?							.38
Never	92	46.5	101	50.5	33	54.1	
Seldom	36	18.2	23	11.5	10	16.4	
Sometimes	46	23.2	56	28.0	13	21.3	
Usually	16	8.1	14	7.0	3	4.9	
Always	8	4.0	6	3.0	2	3.3	
Does fear of incontinence (either urine or stool) restrict your sexual activity?							.43
Never	189	95.5	187	93.5	58	96.7	
Seldom	5	2.5	2	1.0	1	1.7	
Sometimes	4	2.0	10	5.0	0		
Usually	0		1	0.5	0		
Always	0		0		1	1.7	
Do you avoid sexual intercourse because of bulging in the vagina (either the bladder, rectum, or vagina falling out)?							.43
Never	188	95.9	194	97.5	60	100	
Seldom	6	3.1	1	0.5	0	0	
Sometimes	0		2	1.0	0	0	
Usually	1	0.5	1	0.5	0	0	
Always	1	0.5	1	0.5	0	0	

PISQ-12, Pelvic Organ Prolapse/Urinary Incontinence/Sexual Function Short Form Questionnaire.

* P value from general linear model applied to ranked data after adjustment for age and race. Missing values are excluded.