

WHY DO WOMEN EXPERIENCE DYSPAREUNIA? LESSONS FROM A POPULATION OF TWIN SISTERS**Hypothesis / aims of study**

Dyspareunia has a negative impact on the quality of life in sexually active women. Reconstructive pelvic surgery and anti-incontinence procedures have often been implicated in the etiology of dyspareunia. In addition, pelvic organ prolapse and urinary incontinence have been associated with female sexual dysfunction. We specifically examined factors associated with dyspareunia among a population of sexually active twin sisters. This model enabled us to ideally assess the impact of demographic, environmental, physiologic and obstetrical factors on dyspareunia.

Study design, materials and methods

An extensive survey of pelvic floor symptoms, anal and urinary incontinence was conducted at the largest annual gathering of twins in the world at the 2003 Twins Day Festival, in Twinsburg, Ohio, USA. The 67-item survey was completed by 182 twin sister pairs. Subjects were specifically asked if they were sexually active and if so, did they feel pain during intercourse. We utilized logistic regression models for repeated binary measures to account for correlated data within pairs. The primary outcome variable was the presence of dyspareunia. Demographic, environmental, physiologic and obstetrical factors that had $p < 0.25$ on bivariate analyses were included in multivariable regression analysis.

Three models were utilized to analyze determinants of dyspareunia: (A) 95 sexually active twin pairs ($n=190$) were analyzed to evaluate non-obstetrical factors, (B) 72 sexually active parous-parous twin pairs ($n=144$) were examined to assess obstetrical risk factors, and (C) 54 pairs for which each twin had at least one vaginal delivery ($n=108$) were evaluated to assess the impact of factors specific to vaginal delivery. These models enabled analyses of factors utilizing statistically valid reference groups. All analyses were performed in SAS[®].

Results**Table 1. Demographic data ($n=190$)**

Age (years)	44 ± 11
Parity	2 ± (0 – 5)
Body mass index (BMI)	25.4 ± 5.7
Race	
Caucasian	174 (92)
African American	12 (6.3)
Postmenopausal	69 (36)
Hormone replacement	26 (14)
Previous surgery	
Hysterectomy	
Anti-incontinence surgery	5 (2.6)
Parous	163 (86)
Vaginal birth	119 (62)
Forceps vaginal delivery	32 (17)
Episiotomy	108 (57)
Incontinence	
Stress urinary incontinence	102 (54)
Faecal incontinence	21(11)

Values are presented as mean ± SD, median (range), or as number (percent).

Table 2. Likelihood of dyspareunia

	OR	P value
Urge incontinence	2.0	P = 0.04
Age	0.95	P = 0.002

Interpretation of results

This twin study design enabled us to control for genetic factors and upbringing that may contribute to sexual functioning. In all sexually active twin pairs, urge incontinence was correlated with increased dyspareunia. Unlike previous studies that found higher rates of dyspareunia in older women, we found that for every year a women aged she was 5% less likely to experience dyspareunia. Unlike previous studies, prior surgery and other physiologic factors such as menopausal status were not correlated with dyspareunia. Obstetrical factors (i.e. episiotomy, forceps delivery) and birth mode (vaginal vs. caesarean) did not affect the rates of dyspareunia.

Concluding message

In this twins study design, women with dyspareunia were two times more likely to suffer from urge incontinence than those without dyspareunia. Interestingly, younger women reported more dyspareunia. Further studies are needed to understand why younger patients may experience more dyspareunia. Practitioners should be aware that their younger patients may be at a higher risk for dyspareunia and that urge incontinence significantly impacts sexual function.