Published in final edited form as:

J Low Genit Tract Dis. 2013 July ; 17(3): 273–279. doi:10.1097/LGT.0b013e31826ca384.

Interpretation of the Sexual Functioning Questionnaire in the Presence of Vulvar Pain

Laurie J. Legocki, PhD, James E. Aikens, PhD, Ananda Sen, PhD, Hope K. Haefner, MD, and Barbara D. Reed, MD, MSPH

Department of Family Medicine (Drs. Legocki, Aikens, Sen, and Reed), and the Department of Obstetrics and Gynecology (Dr. Haefner), University of Michigan, Ann Arbor, MI

Abstract

Objective—To assess whether the domains identified by items on the Sexual Functioning Questionnaire (SFQ) apply to women with vulvodynia.

Study Design—Forty-one women with vulvodynia and 43 asymptomatic controls, between the ages 18–70 years, were assessed with a physician evaluation and a written survey that included the SFQ.

Results—Women with vulvodynia had a higher likelihood of female sexual dysfunction (FSD) than did controls as indicated by five of the seven individual SFQ domains (desire, arousal-lubrication, pain, enjoyment, and partner domains, $p < 0.05$). Scored on individual items relating to pain or penetrative sex differed more by vulvodynia presence than did items related to arousal and emotions. Compared to published SFQ psychometrics, factor analysis among women with vulvodynia demonstrated similar factor loadings in 6 of the 7 domains of the SFQ (desire, arousal-sensation, arousal-lubrication, orgasm, partner, and pain), but the enjoyment domain intermingled substantially with these other domains.

Conclusions—The SFQ factor structure is generally valid among women with vulvodynia. However, vulvodynia may impact responses to individual items on questions about pain and/or penetration, which may potentially result in erroneous interpretations.

Introduction

Vulvodynia is a clinical entity consisting of chronic vulvar discomfort most often described as burning pain that occurs in the absence of relevant visible findings.¹ Approximately 3 to 10% of the female population between the ages of 18 and 65 are affected.^{2–5} Vulvodynia is currently classified as a sexual dysfunction in the Diagnostic and Statistical Manual of Mental Disorders [DSM-IV].⁶ However, this classification has been criticized because although the DSM has a specific section for pain disorders, sexual pain disorders are not included there, implying that different processes underlie genital/sexual pain as opposed to DSM-defined pain disorders.⁷ Nevertheless, vulvar pain is often most severe during sexual intercourse, and may therefore impact various aspects of sexual response and function.

Corresponding author: Laurie J. Legocki, PhD, Department of Family Medicine, University of Michigan, 1018 Fuller Street, Ann Arbor, MI 48105. TEL 734-998-7120, Ext. 275. FAX: 734-998-7335. lauriele@umich.edu.
Requests for reprints: Laurie J. Legocki, PhD, Department of Family Medicine, University of Michigan, 1018 Fuller Street, Ann Arbor, MI 48105.

Publisher's Disclaimer: This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Whether vulvar pain differentially impacts the various components of sexual functioning, and whether previously validated instruments such as the Sexual Functioning Questionnaire (SFQ) are valid in this disorder, is unclear.

The SFQ is a 34-item instrument that has been shown to have excellent internal consistency, moderate to good reliability, and excellent discriminant validity and sensitivity when utilized to describe female sexual dysfunction in a population of women with female sexual arousal disorder, female orgasmic disorder, hypoactive sexual desire disorder and dyspareunia.⁸ Despite its application across these diverse populations, the SFQ has not been validated in women with vulvodynia. Only a few women with dyspareunia were included in the original developmental population (78 with dyspareunia, or 6.7% of those studied), and these were only included if they specifically had superficial/introital pain due to vaginal dryness, not vulvodynia.⁹ We therefore assessed the fit between the SFQ domains identified previously by Quirk et al.⁸ and those identified among women with vulvodynia.

Methods

Procedures

Approval for the study was obtained from the University of Michigan Institutional Review Board. Female participants were part of a three-year study designed to assess sensory characteristics of women with and without vulvodynia that was conducted at two University of Michigan clinics (the University of Michigan Center for Vulvar Diseases in Ann Arbor, MI; and the Vulvodynia Clinic at the University of Michigan Family Practice Center at Chelsea, MI). Cases were recruited after presenting with vulvar pain that was subsequently diagnosed as vulvodynia. Controls were a convenience sample of women denying vulvar pain who were recruited from the University of Michigan Family Medicine Clinics as well as from the University of Michigan's online study recruitment database (Engage). Participants completed self-report measures, after which they underwent a physical examination and laboratory testing including sensory testing. The sensory testing data are reported more extensively elsewhere.¹⁰

Subject criteria

Women with vulvodynia were defined as those who had current vulvar pain/burning/irritation, which had been present for a minimum of three months. Women with either generalized or localized vulvodynia were included. Inclusion criteria required that all participants: (a) were between 18 and 70 years of age, (b) were not pregnant, breast feeding, or within six months postpartum, (c) did not have a definitive vulvar rash or lesion, (d) did not report a systemic pain syndrome, such as fibromyalgia and, (e) had no history of vulvar laser surgery, a vestibulectomy, or an anterior/posterior repair. Additional exclusion criteria included: (a) evidence of Candida vulvovaginitis that had not been previously treated, and (b) current use of medications that are potentially effective treatments for vulvodynia. Control status was determined based on reporting no current pain with intercourse and no history of vulvar pain lasting three months or greater. Women who were not currently sexually active or who had never been sexually active were not excluded from the study, as vulvodynia can be present even if pain is not provoked through sexual activities.

Self-report measures

A self-administered questionnaire was used to obtain participant information. The questionnaire addressed areas including demographic information, relationship characteristics, pain and menstrual cycle history, general exposures and current medications. Participants were also asked to fill out the Sexual Functioning Questionnaire Version 2 (SFQ-V2),⁸ which assesses seven domains of sexual functioning (desire, arousal-lubrication,

arousal-sensation, orgasm, pain, enjoyment, and partner relationship). On this 34-item questionnaire, responses are recorded using a Likert scale with five to seven possible response options per item. These responses are each given a score that is used to determine the total SFQ score as well as the scores for each of the seven domains. There are three levels of sexual function described in the SFQ: female sexual dysfunction, borderline sexual dysfunction, and normal sexual function. The possible range of scores which suggests normal function for each domain were as follows: desire (5–31; >23), arousal sensation (4–20; >14), arousal lubrication (2–10; >8), orgasm (3–15; >12), pain (2–15; >12), enjoyment (6–30; >23), and partner relationship (2–10; >8).⁸ The total SFQ score ranges between 30 and 167, in each case, a higher score indicates a higher level of normal sexual function. Missing item values were imputed by the mean of all respondent scores for the item. The imputation was carried out for items only in domains in which less than half of the items were missing, otherwise the domain score was not constructed for the subject.⁸

Data analysis

Descriptive analyses included frequency distributions along with usual summary statistics. Differences in demographics and other characteristics between the groups (vulvodynia versus controls) were assessed using two-sample t-tests or chi-square tests for continuous and categorical measures, respectively. Association between categories of sexual functioning and the case/control status for each domain were analyzed using an ordinal logistic regression model controlling for age, ethnicity, and marital status. The relationship between case/control status and the individual items of the SFQ were analyzed using multivariable linear regression models with the item score treated as a continuous outcome and case/control status as the primary factor, controlling for age, ethnicity and marital status.

Exploratory factor analysis to identify sexual dysfunction domains was performed in our population of women with vulvodynia, both with and without data on control women, using the 26 items originally identified by Quirk et al. as comprising the seven domains,⁸ assessing factors with Eigenvalues ≥ 1.0 , and factor loadings ≥ 0.4 . Similarities between these factors and those identified by Quirk et al.⁸ were assessed. In addition, Pearson correlation coefficients were used to determine relationships between domain scores and measured pain sensitivity or level of reported pain following intercourse.

Results

Demographics

Between June 2005 and October 2008, 84 women participated in the study, including 41 women with vulvodynia and 43 asymptomatic controls. A subset of demographic data and exposure characteristics as well as current sexual activities for cases and controls are included in Table 1. The women with vulvodynia were similar to controls on demographic variables including age, marital status, and years of education. Controls were more likely to be Caucasian ($p=.02$), and to have smoked in their lifetime ($p=.05$); however, there were no differences in current smoking behaviors. Types of sexual activities conducted within the past 30 days were similar for cases and controls.

Of the 41 women with vulvodynia, 26 had localized pain (at the opening to the vagina) and 15 had more generalized pain beyond the introitus. There were no significant differences between the localized and generalized vulvodynia groups in demographic and exposure characteristics such as age, minority status, education level, marital status, current smoking status, age at first intercourse, current and years of oral contraceptive use, or history of nonconsensual sex. In addition, there were no significant differences between the two

vulvodynia groups on any of the scores on the seven domains of the SFQ. Therefore, those with localized and generalized vulvodynia were combined for all further analyses.

All but three women reported having had vaginal intercourse in their lifetime, with the majority of both cases and controls reporting intercourse within the past month (60% and 72.1%, respectively, $p=.17$). Seventeen SFQ items refer to sexual activities in the past four weeks. Women who indicated that they had not had recent intercourse were coded as missing on these items and therefore did not have a total SFQ score or scores for the arousal-sensation, arousal-lubrication, orgasm, pain and enjoyment domains. They did complete all items for the desire and partner domains, and were included in these analyses.

The total SFQ scores ranged from 40.0 to 151.6 (105.3 ± 25.0), with higher numbers indicating better sexual function. There was a difference in overall sexual function between cases and controls when comparing the total SFQ score (94.6 ± 23.8 vs. 114.9 ± 22.3 , respectively; $p<.001$). In addition, the mean score for women with vulvodynia was lower than that of control women on six of the seven individual SFQ domains including the desire (16.0 ± 6.0 vs. 19.3 ± 6.1 ; $p=.004$), arousal-lubrication (5.6 ± 2.0 vs. 6.9 ± 2.2 ; $p=.002$), pain (6.5 ± 3.3 vs. 13.7 ± 1.6 ; $p<.001$), enjoyment (19.3 ± 4.4 vs. 23.3 ± 3.8 ; $p=.002$), and partner relationship domains (8.0 ± 2.0 vs. 9.2 ± 1.6 ; $p<.001$), indicating greater sexual dysfunction for cases in these domains. However, scores for the arousal-sensation and orgasm domain were similar across groups.

Table 2 shows the comparisons of the proportion of cases and controls scoring in each female sexual dysfunction category. Cases were more likely to be rated as having high probability of sexual dysfunction in the desire, arousal-lubrication, pain, enjoyment and partner relationship domains. Several of the non-pain domains (such as desire) contained at least one item dealing with pain – items that would be expected to be answered differently by women with vulvodynia – and which might substantially affect the interpretation of the domain score. Therefore, in addition to the analysis of the domains, we also analyzed individual items that make up the seven SFQ domains (Table 3). Group differences for the individual items were analyzed using multivariable linear regression after controlling for age, ethnicity and marital status. These item-level analyses often indicated no statistically significant difference between cases and controls on items reflecting the key component of their parent domain; examples included items referring to frequency (Item 19, $p=.564$) and enjoyment (Item 20, $p=.894$) of sexual activity without penetration, feeling emotionally close while taking part in sexual activity (Item 21, $p=.883$), as well as how often (Item 24, $p=.663$) and how pleasurable (Item 25, $p=.398$) orgasms were during sexual activity. Conversely, there were significant differences between cases and controls on all of the pain items ($p<.001$) as well as items specific to penetrative sexual activities including initiating activity (Item 4, $p=.003$) or looking forward to activity (Item 28, $p<.001$), regardless of the specific domain. Cases also reported significantly less confidence as a sexual partner (Item 27, $p<.001$) and more worry about their partners' negative feelings about their sexual life (Item 31, $p<.001$) than did controls.

The 34-item version of the SFQ was originally divided into seven domains based on factor analysis on 982 women.⁸ Of these, eight items did not fall within any of the domains and therefore are not typically considered except for their contribution to the total SFQ score. Controls and women with vulvodynia rated many of the remaining 26 items differently. For example women with vulvodynia were significantly more disappointed than controls were with their sexual response (Item 29, $p<.001$) and with their frequency of sexual activity (Item 32, $p<.001$). Because the initial women used for development of the SFQ included very few women with vulvar pain and none with vulvodynia,^{8,9} we repeated the factor analysis for women with vulvodynia (alone, and also combined with controls). In both cases

(combined cases and controls, and cases alone) six of the seven domains (all but the enjoyment domain) were identical to those identified by Quirk et al. The enjoyment domain intermingled substantially with four other domains (Table 4).

To further clarify whether vulvodynia is primarily a pain disorder with sexual consequences or a sexual dysfunction that involves pain, we assessed the relationship between the original domains and two “sensory” variables measured in our study. The first consisted of the level of pressure required at the 6 o'clock position in the introitus to produce mild pain, and that required to produce moderately-severe pain, using the vulvodorimeter.¹⁰ The second was whether the participant reported a history of pain that lingered following intercourse (a symptom commonly reported in vulvodynia). Pressure sensitivity at the vulva was associated with only one of the seven SFQ domains -- the “pain” domain ($p<.001$). A history of pain after intercourse was associated with only two of the domains: the “pain” domain ($p<.001$) and the “partner” domain ($p=.006$). The sensory testing data are reported more extensively elsewhere.¹⁰

Discussion

Women with vulvodynia are often thought of as not being sexually active, when in fact, they are as likely to participate in various sexual activities within a month's time as are controls, albeit not necessarily as frequently.¹¹ The present study confirms those findings, with cases and controls reporting a similar likelihood of various sexual activities within the past 30 days. Women with vulvodynia not only participated in penetrative activities, but they also engaged in cunnilingus and masturbation, activities that are typically not associated with pain in women with vulvodynia. They were also similar to controls in their ability to experience orgasm, strongly suggesting that they enjoy sexual activities when it doesn't provoke the pain that they experience.

Factor analysis demonstrated similarities between women with vulvodynia and the diverse sample evaluated by Quirk et al.⁸ This has not been previously shown. These results suggest that vulvar pain, while impacting individual items in a number of questions included in each domain, does not distort the communality of any domain other than the enjoyment domain, regardless of whether women with vulvodynia were assessed alone or along with those without vulvodynia. However, items originally comprising the “enjoyment” domain did not coalesce into a factor.

Evaluation of individual SFQ items helps to further explain how specific issues that are unique to women with vulvodynia may result in potentially erroneous interpretation of SFQ scores. Specifically, vulvodynia may impact SFQ subdomain scores in ways that do not apply to non-pain patients by reducing item scores, which may exaggerate the impression of poor sexual function. Many of the significant differences between cases and controls were on items that dealt specifically with the introital pain, and even more specifically with penetration. It is important to note that controls were selected on the basis of not having vulvar pain, and hence, would be expected to differ substantially in the pain domain. However, with regard to responses to SFQ items related to emotions, we found very few differences between cases and controls. This suggests that despite their experienced pain, women with vulvodynia desire intimacy and participation in sexual activities. Similar findings have been reported in other chronic pain populations.^{12 13} Furthermore, sensory testing at the vulva and a history of pain after intercourse were only associated with the pain and the partner domains of the SFQ, which emphasize vulvar pain over sexual function. These data further support the reclassification of vulvar pain associated with sexual activity as a pain disorder rather than a sexual disorder.^{14, 15}

The identification of concomitant sexual dysfunction may have an impact upon treatment decision-making in vulvodynia. In these cases, should treatment target sexual dysfunction or nerve hypersensitivity? Research on interstitial cystitis suggests that pain relief is by itself associated with improved sexual functioning.¹⁶ Pending further treatment trials, a focus upon treatment of the pain component may be important for women with vulvodynia, followed by treatment of any sexual dysfunction that persists after pain is addressed.

Acknowledgments

Support for this study was provided in part by the National Institute of Child Health and Human Development, National Institutes of Health, R01 HD045661 (Reed).

References

1. Haefner HK. Report of the international society for the study of vulvovaginal disease terminology and classification of vulvodynia. *J. Low. Genit. Tract Dis.* 2007; 11(1):48–49. [PubMed: 17194952]
2. Reed BD, Crawford S, Couper M, Cave C, Haefner HK. Pain at the vulvar vestibule: a Web-based survey. *J Lower Genit Tract Dis.* 2004; 8(1):48–57.
3. Harlow BL, Wise LA, Stewart EG. Prevalence and predictors of chronic lower genital tract discomfort. *Am. J. Obstet. Gynecol.* 2001; 185(3):545–550. [PubMed: 11568775]
4. Harlow BL, Stewart EG. A population-based assessment of chronic unexplained vulvar pain: have we underestimated the prevalence of vulvodynia? *J. Am. Med. Assoc.* 2003; 289(2):82–88. [PubMed: 12744420]
5. Reed BD, Harlow SD, Sen A, Legocki LJ, Edwards RM, Arato N, et al. Prevalence and demographic characteristics of vulvodynia in a population-based sample. *Am. J. Obstet. Gynecol.* 2012; 206(2):170, e1–e9. [PubMed: 21963307]
6. American Psychiatric Association Task Force on DSM-IV. Diagnostic and statistical manual of mental disorders : DSM-IV-TR. 4th ed.. Washington, DC: American Psychiatric Association; 2000.
7. Binik YM, Reissing E, Pukall C, Flory N, Payne KA, Khalife S. The female sexual pain disorders: genital pain or sexual dysfunction? *Arch. Sex. Behav.* 2002; 31(5):425–429. [PubMed: 12238610]
8. Quirk FH, JR H, Rosen RC, Laan E, Smith MD, Boolill M. Development of a sexual function questionnaire for clinical trials of female sexual dysfunction. *J Womens Health Gend Based Med.* 2002; 11(3):277–289. [PubMed: 11988137]
9. Quirk F, Haughie S, Symonds T. The use of the sexual function questionnaire as a screening tool for women with sexual dysfunction. *J Sex Med.* 2005; 2(4):469–477. [PubMed: 16422841]
10. Giesecke J, Reed BD, Haefner HK, Giesecke T, Clauw DJ, Gracely RH. Quantitative sensory testing in vulvodynia patients reveals increased peripheral pressure pain sensitivity. *Obstet. Gynecol.* 2004; 104(1):126–133. [PubMed: 15229011]
11. Reed BD, Advincula AP, Fonde KR, Gorenflo DW, Haefner HK. Sexual activities and attitudes of women with vulvar dysesthesia. *Obstet. Gynecol.* 2003; 102(2):325–331. [PubMed: 12907108]
12. Ambler N, Williams AC, Hill P, Gunary R, Cratchley G. Sexual difficulties of chronic pain patients. *Clin. J. Pain.* 2001; 17(2):138–145. [PubMed: 11444715]
13. Kwan KS, Roberts LJ, Swalm DM. Sexual dysfunction and chronic pain: the role of psychological variables and impact on quality of life. *Eur J Pain.* 2005; 9(6):643–652. [PubMed: 16246817]
14. Binik YM. Dyspareunia Looks Sexy on First But How Much Pain Will It Take for It to Score? A Reply to My Critics Concerning the DSM Classification of Dyspareunia as a Sexual Dysfunction. [comment]. *Archives of Sexual Behavior.* 2005; 34(1):63–67. [PubMed: 15772769]
15. Binik YM, Meana M, Berkley K, KhalifÃ© S. The sexual pain disorders: is the pain sexual or is the sex painful? *Annual Review Of Sex Research.* 1999; 10:210.
16. Nickel JC, Parsons CL, Forrest J, Kaufman D, Evans R, Chen A, et al. Improvement in sexual functioning in patients with interstitial cystitis/painful bladder syndrome. *J Sex Med.* 2008; 5(2): 394–399. [PubMed: 18086174]

Table 1

Characteristics of participants.

Variable	Controls N= 43	Cases N= 41	p value
Age in years (mean $\pm$ S.D.)	38.3 $\pm$ 14.4	33.7 $\pm$ 11.8	0.11
Caucasian	91.0%	71.0%	0.02
Education in years (mean $\pm$ S.D.)	15.2 $\pm$ 2.4	16.6 $\pm$ 2.2	0.13
Married or living as married	46.0%	61.0%	0.18
Current Smoker	9.3%	7.3%	0.52
History of smoking	44.0%	24.0%	0.05
Sexual History past 30 days			
- Engaged in vaginal	72.1%	60.0%	0.17
- Engaged in cunnilingus	53.7%	48.7%	0.41
- Engaged in fellatio	57.1%	52.6%	0.42
- Engaged in self-stimulation	43.6%	52.6%	0.28
- Had an orgasm	85.0%	74.4%	0.18

Table 2

Comparison of the proportion of cases and controls with SFQ domain scores within identified categories of female sexual functioning.

SFQ Domain		Female Sexual Dysfunction [*]	Borderline Sexual Function [*]	Normal Sexual Function [*]	P value [^]
Desire	Cases n= 41 ^{**}	46%	44%	10%	0.003
	Controls n= 42	28%	38%	33%	
Arousal-Sensation	Cases n= 30	37%	23%	40%	0.898
	Controls n= 34	32%	32%	35%	
Arousal-Lubrication	Cases n= 30	50%	30%	20%	0.002
	Controls n= 33	24%	24%	52%	
Orgasm	Cases n= 31	10%	45%	45%	0.941
	Controls n= 35	20%	31%	49%	
Pain	Cases n= 26	65%	23%	12%	0.001
	Controls n= 31	0%	3%	97%	
Enjoyment	Cases n= 30	33%	43%	23%	0.002
	Controls n= 33	15%	24%	61%	
		Worried		Not Worried	
Partner	Cases n= 37	49%		51%	0.001
	Controls n= 37	16%		84%	

^{*} As defined by Quirk et al.,⁸ normal sexual function was suggested by scores of >23 for desire (range 5–31), >14 for arousal sensation (range 4–20), >8 for arousal lubrication (range 2–10), >12 for orgasm (range 3–15), >12 for pain (range 2–15), >23 for enjoyment (range 6–30), and >8 for partner (range 2–10).

[^]

Based on ordinal logistic regression controlling for ethnicity, marital status, and age.

^{**}

Participant n's vary based on responses to individual questions that make up each domain.

Table 3

Average scores of cases and controls on individual items of the SFQ that comprise the 7 SFQ domains.

Domain	Item: Over the last 4 weeks:	Controls (SD)	Cases (SD)	p value [^]
Desire	1. How often have you had pleasurable thoughts and feelings about sexual activity (SA)?	3.4 ± 1.2	3.4 ± 1.3	0.747
	2. How often have you wanted to be sensually touched and caressed by your partner?	3.6 ± 1.2	3.4 ± 1.3	0.147
	3. How often have you wanted to take part in SA?	3.5 ± 1.2	3.1 ± 1.3	0.059
	4. How often have you initiated SA with your partner?	2.9 ± 1.2	2.2 ± 1.1	0.003
	15. How often did you take part in SA with penetration?	3.3 ± 1.5	2.4 ± 1.5	0.005
	28. How often did you look forward to SA?	3.5 ± 1.0	2.6 ± 1.2	0.001
Arousal-sensation	7. How often did you have a feeling of "warmth" in your vaginal/genital area when you took part in SA?	3.8 ± 1.4	3.2 ± 1.4	0.071
	8. How much "warmth" did you feel in your vaginal/genital area when you took part in SA?	2.7 ± 1.0	2.9 ± 1.2	0.438
	9. How often did you have a sensation of "pulsating" in your vaginal/genital area when you took part in SA?	2.8 ± 1.2	2.9 ± 1.4	0.675
	10. How much "pulsating" in your vaginal/genital area did you notice when you took part in SA?	2.8 ± 1.2	2.6 ± 1.2	0.640
Arousal-lubrication	11. How often did you notice vaginal wetness/lubrication when you took part in SA?	3.8 ± 1.3	2.9 ± 1.2	0.001
	12. How much vaginal wetness/lubrication did you notice when you took part in SA?	3.2 ± .97	2.7 ± .98	0.005
Orgasm	24. How often did you have an orgasm when you took part in SA?	3.5 ± 1.2	3.8 ± 1.3	0.663
	25. In general, how pleasurable were the orgasms that you had?	4.0 ± .78	3.9 ± .73	0.398
	26. In general, how easy was it for you to reach orgasm?	3.5 ± .87	3.3 ± .86	0.187
Pain	*17. How often did you experience pain in your vagina/genital area during or after SA?	4.6 ± 1.0	1.9 ± 1.4	< 0.001
	*18. In general, how much pain did you experience in your vagina /genital area during or after SA?	4.6 ± .61	2.7 ± 1.2	< 0.001
	*22. How often have you been worried or anxious about pain during SA?	4.9 ± .40	1.8 ± 1.7	< 0.001
Enjoyment	6. In general, how enjoyable has it been to be sensually touched and caressed by your partner?	4.1 ± .73	3.4 ± 1.1	0.047
	16. In general, how much did you enjoy penetration and intercourse?	3.9 ± .93	2.7 ± 1.2	< 0.001
	20. In general, how much did you enjoy SA w/o penetration?	3.7 ± .85	3.7 ± 1.0	0.894
	21. How often did you feel emotionally close to your partner when you took part in SA?	4.1 ± 1.1	4.1 ± 1.0	0.883
	23. Did you feel good about yourself when you were SA?	3.9 ± .99	2.7 ± 1.2	0.002
	27. How confident have you felt about yourself as a sexual partner?	3.8 ± .98	2.4 ± 1.2	< 0.001
Partner	*30. How much did you worry that your partner may look for another sexual relationship because of problems with your sexual life?	4.7 ± .87	4.5 ± 1.0	0.091
	*31. How much did you worry about your partner's negative feelings about your sexual life?	4.6 ± .89	3.5 ± 1.3	0.001
No domain	5. How often have you been sensually touched and caressed by your partner?	3.3 ± 1.2	2.8 ± 1.3	0.344
	13. How often did you have feelings of emotional sexual arousal when you took part in SA?	3.5 ± 1.2	3.0 ± 1.4	0.152

Domain	Item: Over the last 4 weeks:	Controls (SD)	Cases (SD)	p value [^]
	14. How much emotional sexual arousal did you notice when you took part in SA?	3.5 ± .79	3.1 ± 1.1	0.201
	19. How often did you take part in SA w/o penetration?	2.2 ± 1.3	2.1 ± 1.3	0.564
	*29. Did you feel disappointed with your sexual response?	4.3 ± 1.1	2.9 ± 1.5	0.001
	32. How did you feel about the frequency of your SA?	2.4 ± .76	1.7 ± .79	< 0.001
	33. How important is being able to have an enjoyable sex life to you?	3.5 ± 1.1	4.3 ± .73	0.002
	34. Taking the whole of your sexual life into account, how satisfied have you been?	3.5 ± 1.2	2.1 ± 1.2	< 0.001

[^] **P-value based on** multivariable linear regression controlling for age, ethnicity and marital status.

* **These survey items are scored 1–5 in descending order.**

Table 4

Factor loadings for 26 items from the original SFQ factor analysis, compared to the domains identified by Quirk et al.⁸ among the 41 women with vulvodynia* (Principal components and Varimax rotation).

Original domain ⁸	Item number	Factors identified						
		1	2	3	4	5	6	7
Desire	1	.859						
	2	.832						
	3	.902						
	4	.732						
	15	.480						
	28	.691						
Arousal-sensation	7		.604					
	8		.871					
	9		.878					
	10		.913					
Partner	30			.888				
	31			.708				
Pain	17				.883			
	18				.839			
	22				.562			
Orgasm	24							.541
	25					.755		
	26					.786		
Arousal-lubrication	11						.897	
	12						.845	
Enjoyment	6							.538
	16							.582
	20							.696
	21					.696		

Original domain ⁸	Item number	Factors identified						
		1	2	3	4	5	6	7
	23			.493				
	27	.530						

* Missing values replaced by mean.